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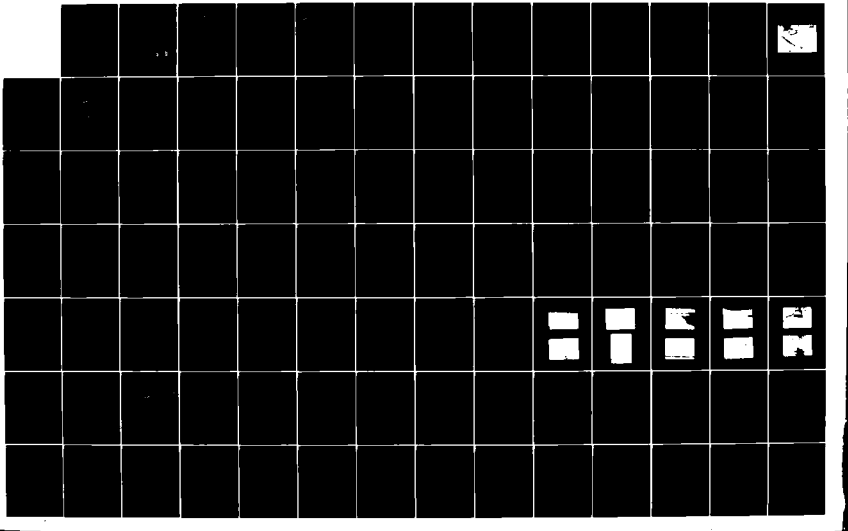

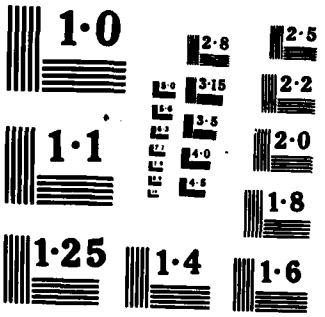
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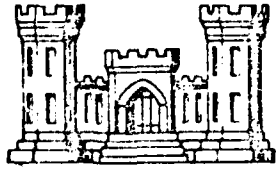
RICHELIEU RIVER BASIN
PEACHAM, VERMONT

PEACHAM POND DAM
VT. 00050

PHASE I INSPECTION REPORT
NATIONAL DAM INSPECTION PROGRAM



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS. 02154

MARCH 1980

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4. TITLE (and Subtitle): Peachman Pond Dam NATIONAL PROGRAM FOR INSPECTION OF NON-FEDERAL DAMS	5. TYPE OF REPORT & PERIOD COVERED: INSPECTION REPORT
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18. SUPPLEMENTARY NOTES

Cover program reads: Phase I Inspection Report, National Dam Inspection Program; however, the official title of the program is: National Program for Inspection of Non-Federal Dams; use cover date for date of report.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

DAMS, INSPECTION, DAM SAFETY,

Richelieu Rover Basin
Peachman, VT.
Peachman Pond Brook

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The dam is a 795 ft. long earth dam with a maximum height of 26 ft. The dam is intermediate in size with a significant hazard potential. The dam was judged to be in fair overall condition. Several seepage areas were observed near the downstream toe of the dam. There are a few recommendations which should be undertaken by the owner.

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DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02154

REPLY TO
ATTENTION OF
NEDED

MAY 19 1980

Honorable Richard A. Snelling
Governor of the State of Vermont
State Capitol
Montpelier, Vermont 05602

Dear Governor Snelling:

Inclosed is a copy of the Peacham Pond Dam Phase I Inspection Report, which was prepared under the National Program for Inspection of Non-Federal Dams. This report is presented for your use and is based upon a visual inspection, a review of the past performance and a brief hydrological study of the dam. A brief assessment is included at the beginning of the report. I have approved the report and support the findings and recommendations described in Section 7 and ask that you keep me informed of the actions taken to implement them. This follow-up action is a vitally important part of this program.

A copy of this report has been forwarded to the Department of Water Resources, the cooperating agency for the State of Vermont. In addition, a copy of the report has also been furnished the owner, Green Mountain Power Corporation, Montpelier, Vermont.

Copies of this report will be made available to the public, upon request, by this office under the Freedom of Information Act. In the case of this report the release date will be thirty days from the date of this letter.

I wish to take this opportunity to thank you and the Department of Water Resources for your cooperation in carrying out this program.

Sincerely,

MAX B. SCHEIDER
Colonel, Corps of Engineers
Division Engineer

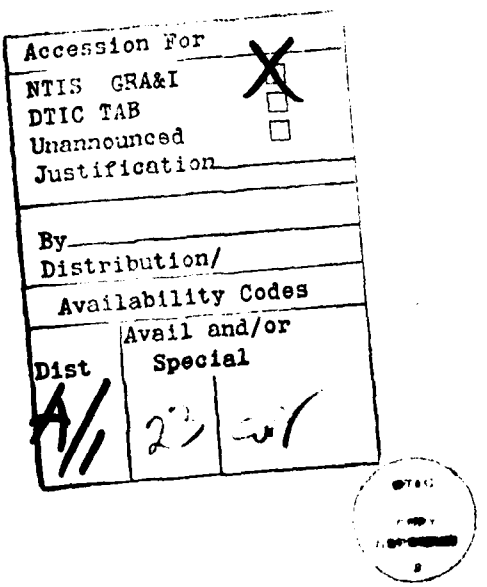
Incl
As stated

PEACHAM POND DAM

VT 00050

RICHELIEU RIVER BASIN

PEACHAM, VERMONT



PHASE I INSPECTION REPORT

NATIONAL DAM INSPECTION PROGRAM

NATIONAL DAM INSPECTION PROGRAM

PHASE I INSPECTION REPORT

Identification No:	VT00050
Name of Dam:	Peacham Pond Dam
Town:	Peacham
County and State:	Caledonia County, Vermont
Stream:	Peacham Pond Brook
Date of Inspection:	May 1, 1979

BRIEF ASSESSMENT

The Peacham Pond Dam is a 795-foot long earth dam with a maximum height of 26 feet. The dam contains a 90-foot long concrete sill spillway and a 4-foot diameter concrete outlet conduit with a reinforced concrete intake structure located on the upstream dam embankment. The 362-acre impoundment has a drainage area of 5.87 square miles.

The dam is classified as intermediate with a significant hazard potential in the event of a dam failure. Based on these classifications, the one-half Probable Maximum Flood was selected as the test flood. The test flood inflow was calculated at 10,200 CFS (1740 CSM). After routing, the test flood outflow was computed as 3,400 CFS. The spillway capacity of 4,200 CFS is 124 percent of the routed test flood outflow, with a freeboard of 1.1 feet.

The dam was judged to be in fair overall condition based on the file data and the following visual observations:

1. Concrete is deteriorating on the control tower and outlet conduit.

2. Several seepage areas were observed near the downstream toe of the dam.

3. A considerable amount of floatable debris exists in the reservoir area which may restrict the spillway capacity during high flow periods.

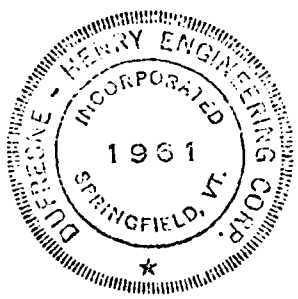
The following recommendations should be instituted under the guidance of a professional engineer qualified in the design of dams, within one year of the receipt of this report:

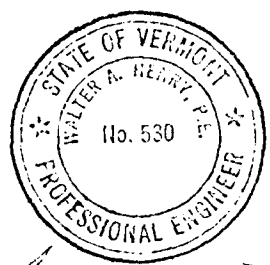
1. Repair the deteriorated portions of the concrete outlet pipe.

2. Repair the spalling concrete of the control tower.

3. Institute a program of annual technical inspections with particular attention to the seeps at the base of the dam and the debris in the vicinity of the spillway. Spillway debris should be removed on a periodic basis.

4. Institute a formal warning system.





PREFACE

This report is prepared under guidance contained in the Recommended Guidelines for Safety Inspection of Dams, for Phase I Investigations. Copies of these guidelines may be obtained from the Office of Chief of Engineers, Washington, D.C. 20314. The purpose of a Phase I Investigation is to identify expeditiously those dams which may pose hazards to human life or property. The assessment of the general condition of the dam is based upon available data and visual inspections. Detailed investigation, and analyses involving topographic mapping, subsurface investigations, testing and detailed computational evaluations are beyond the scope of a Phase I Investigation; however, the investigation is intended to identify any need for such studies.

In reviewing this report, it should be realized that the reported condition of the dam is based on observations of field conditions at the time of inspection along with data available to the inspection team. In cases where the reservoir was lowered or drained prior to inspection, such action, while improving the stability and safety of the dam, removes the normal load on the structure and may obscure certain conditions which might otherwise be detectable if inspected under the normal operating environment of the structure.

It is important to note that the condition of a dam depends on numerous and constantly changing internal and external conditions, and is evolutionary in nature. It would be incorrect to assume that the present condition of the dam will continue to represent the condition of the dam at some point in the future. Only through continued care and inspection can there be any chance that unsafe conditions be detected.

Phase I inspections are not intended to provide detailed hydrologic and hydraulic analyses. In accordance with the established Guidelines, the Spillway Test Flood is based on the estimated "Probable Maximum Flood" for the region (greatest reasonably possible storm runoff), or fractions thereof. Because of the magnitude and rarity of such a storm event, a finding that a spillway will not pass the test flood should not be interpreted as necessarily posing a highly inadequate condition. The test flood provides a measure of relative spillway capacity and serves as an aid in determining the need for more detailed hydrologic and hydraulic studies, considering the size of the dam, its general condition and the downstream damage potential.

TABLE OF CONTENTS

OVERVIEW OF
PEACHAM POND DAM
PEACHAM, VERMONT

wall at the dam section and an earth training dike joining the retaining wall to original ground below the dam (see Photo 7).

Photo 1 illustrates the condition of the outlet gate control tower. Since the gate was almost fully closed, the inside of the outlet pipe was visually inspected. Photo 9 illustrates a hole found in the concrete inside of the outlet pipe. The hole is approximately 15 inches long by 4 inches wide by 4 inches deep, located 39 feet from the outlet end of the pipe on the right hand side. A crack was also found which was 1-1/4 inches wide and approximately 4 inches deep at a location 41 feet from the outlet end of the pipe. Neither the hole nor the crack penetrated the full thickness of the concrete pipe which is 9 inches. Photo 8 shows the outlet of the concrete pipe. Considerable erosion and spalling have occurred along the pipe invert. The upper concrete surface of the control tower is experiencing some deterioration. Photo 5 shows the spalling at the tower railing supports.

d. Reservoir Area

The reservoir area known as Peacham Pond was originally a smaller pond made larger by constructing a dam across the natural outlet. This results in a large volume of perched water which could not drain out under normal conditions. Prior to the dam construction, the area was apparently not cleared and grubbed because an unusually large amount of stumps and other debris have accumulated along the shoreline. The reservoir is used for recreation with approximately 60 camps located along the reservoir shoreline.

e. Downstream Channel

The downstream channel is a natural stream known as Peacham Brook or Peacham Pond Brook. Photo 10 shows the brook looking downstream from the dam outlet pipe. Approximately 200 feet downstream the brook is backwatered by a beaver dam. Since the areas adjacent to the stream are not developed, the presence of the beaver dam and other debris is of no concern.

Due to the infrequent occurrence of overflows, there is no discernible channel between the emergency spillway and the natural stream channel. Several small gullies were formed during the 1973 overflow, but are now overgrown with brush and small trees.

3.2 Evaluation

The visual inspection indicated that the dam is in fair condition. The following observations indicate potential problems:

SECTION 3 - VISUAL INSPECTION

3.1 Findings

a. General

The on-site inspection of the Peacham Pond Dam was performed on May 1, 1979. At the time of inspection, the water level was approximately one foot below the spillway crest. There were no emergency conditions noted on the day of inspection.

b. Dam

The dam consists of an earth fill embankment approximately 700 feet long with a stone paved spillway approximately 90 feet wide. Photo 2 illustrates the upstream face of the dam, reportedly a 3 to 1 slope, with riprap protection. There apparently has been some downslope movement of riprap, resulting in general bulges in the slope face. Grass and moss constitute most of the vegetation growing between rocks. A slight dip in the crest adjacent to the control tower access bridge indicates some minor settlement or erosion at that point.

Photo 3 illustrates the condition of the downstream face of the dam which reportedly is constructed at a slope of 2 to 1. There is a five-foot wide berm near the toe in the region where the dam section is the highest. Apart from some minor sloughing and erosion, probably caused by trespassers, the slope appears in excellent condition.

Photo 4 illustrates one of two minor seepage areas occurring from the interface between the embankment and original ground in the vicinity of the bend in the dam alignment (see plan). Two other wet areas were noted, but did not have observable flow.

c. Appurtenant Structures

The spillway section of the dam consists of a stone-paved channel approximately 90 feet wide and 85 feet long. A 2-foot wide concrete weir is flush with the spillway channel (see Photos 6 and 7). Grass, brush and some small trees are growing between the stones, and some old tree stumps have been deposited on the spillway surface by previously higher water levels.

To the left of the spillway, a small (3-foot high) earth dike ties the dam into natural ground at the left abutment. The right edge of the spillway consists of a concrete retaining

b. Adequacy

Based on visual observations and available engineering data, the information for this dam is sufficient for a Phase I inspection.

c. Validity

The available engineering data are considered valid on the basis of the visual inspection.

SECTION 2 - ENGINEERING DATA

2.1 Design

The Peacham Pond Dam was designed and constructed by the Trojan Engineering Corporation. The design was reviewed and approved by H. K. Barrows, a consulting engineer for the Vermont Public Service Commission.

2.2 Construction

The dam is constructed of homogeneous earth fill about 700 feet long and 25 feet high at its maximum section. It has a top width of 10 feet and, in general, the upstream slope is 1 on 3 and the downstream slope is 1 on 2. The upstream slope is covered with 12 inches of stone riprap. The downstream slope is covered with sod and is well reinforced with a rock-fill toe. The structure is founded on hardpan (earth).

At the south end of the embankment a spillway section, 90 feet long, is formed between concrete abutments and consists of a vertical cutoff wall 2 feet thick and extends 5 feet into the impervious material. Downstream from the cutoff wall the channel is paved for 55 feet with stones.

Outlet works through the middle of the dam include an intake structure; a concrete gate house with a 5-foot diameter iron sluice gate, manually operated; and a 4-foot diameter concrete conduit extended for 125 feet through the embankment.

Details of the dam and appurtenant structures are contained in Appendix B.

2.3 Operation

The outlet control gate is operated periodically according to flow conditions to maintain the water level at one foot below the spillway crest. When required by prolonged dry periods, the water impounded by Peacham Pond is let down to Mollys Falls Reservoir to augment flow to the power station.

2.4 Evaluation

a. Availability

The design and construction drawings for this dam are on file with the Green Mountain Power Corporation.

j. Regulating Outlets

Located at the center of the dam is a control tower with a manually operated 5-foot diameter sluice gate which discharges into a 4-foot diameter by 125-foot long concrete pipe at invert elevation 1382.2. This concrete pipe outlets into an excavated 5-1/2-foot trapezoidal channel lined with 1 to 2-foot diameter stones. The inspection team was able to gain access to both the pipe and sluice gate as only 1/2 foot of water was flowing in the bottom of the pipe. See Section 7.1.c for visual inspection comments.

The gate and water level are monitored periodically and adjusted to maintain the water level at one foot below the spillway crest.

(5) Side Slopes

Downstream slope - 2:1.
Upstream slope - 3:1.

(6) Zoning

None known.

(7) Impervious Core

None known.

(8) Cutoff

Earth key extends down into hardpan 5 feet.

(9) Grout Curtain

None known.

h. Diversion and Regulating Tunnel

Not applicable.

i. Spillway

(1) Type

Earth trapezoidal channel with concrete cutoff wall.

(2) Length

90 feet at invert of weir.
102 feet at top of dam and spillway.

(3) Elevation of Crest

1,402.3 mean sea level.

(4) Gates

None.

(5) Upstream Channel

90 feet wide earth trapezoidal channel.
45 feet long.

(6) Downstream Channel

90 feet wide earth trapezoidal channel with some evergreen trees growing on base and sides of channel.

(3) Test Flood Pool

4,600

(4) Spillway Crest Pool

2,750

(5) Top of Dam

5,096

f. Reservoir Surface (Acres)*

(1) Top of Dam

480

(2) Test Flood Pool

422

(3) Flood Control Pool

Not applicable.

(4) Recreation Pool

362

(5) Spillway Crest

370

g. Dam

(1) Type

Rolled earth embankment.

(2) Length

795 feet.

(3) Height

22 feet.

(4) Top Width

10 feet.

*Estimated based on USGS topographic maps and visual observations.

(4) Recreation Pool

1401.3 feet.

(5) Full Flood Control Pool

Not applicable.

(6) Spillway Crest

1402.3 feet.

(7) Design Surcharge

Not applicable.

(8) Top of Dam

1408.3 feet.

(9) Test Flood Surcharge

1407.2 feet.

d. Reservoir (Feet)*

(1) Length of Maximum Pool

9,000

(2) Length of Recreation Pool

6,500

(3) Length of Flood Control Pool

Not applicable.

e. Storage (Acre-feet)*

(1) Recreation Pool

2,390

(2) Flood Control Pool

Not applicable.

*Estimated based on USGS topographic maps and visual observations.

b. Discharge at Dam Site

(1) Outlet Works

The outlet works at Peacham Pond are operated by the Green Mountain Power Corporation. The outlet structure is located approximately at the center of the dam and has a 5-foot diameter circular iron sluice gate which discharges into a 4-foot concrete discharge pipe at an invert elevation of 1382.2. This structure has a maximum discharge capacity of 260 CFS at invert of spillway and 305 CFS at top of dam.

(2) Maximum Known Flood at Dam Site

There is a gauging board located on the outlet structure which is read twice weekly by Green Mountain Power personnel. According to Ken Hadd, GMP Superintendent of System Operations, the maximum discharge at the dam was June 30, 1973 when water surface was at elevation 1,402.8 MSL with the spillway discharging 91 CFS and the partly open gate discharging 114 CFS for a total rate of 205 CFS. The only damage was some erosion in the outlet spillway channel.

(3) Spillway Capacity

The emergency spillway is 90 feet long and 6 feet high with concrete cutoff wall. This spillway can discharge 4,200 CFS with the water level at the top of the dam. The spillway capacity of 4,200 CFS represents 124 percent of the routed test flood outflow of 3,400 CFS.

c. Elevations (Mean Sea Level)

The following elevations are based on mean sea level elevations:

(1) Streambed at Centerline of Dam

1,381 feet.

(2) Maximum Tailwater

Not known.

(3) Upstream Portal Invert Diversion Tunnel

Not applicable.

g. Purpose

The dam was originally designed and constructed as part of a future hydroelectric power plant. Company officials now believe that the site is uneconomical for further development. Its present use is to provide additional storage for the Mollys Falls hydro project located downstream, and for recreation.

h. Design and Construction History

The Peacham Pond Dam was designed and constructed in 1929-1930 by the Trojan Engineering Corporation of New York City. The design was reviewed and the construction supervised by Mr. H. K. Barrows of the Public Service Commission.

The dam was constructed at the site of the former Bruce Mill Dam, approximately one mile upstream of the Mollys Falls Reservoir.

State inspections on file with the Public Service Commission were performed in 1949, 1953 and 1954. Both the record data and current visual inspection indicate that the dam is unchanged since its original construction in 1929-1930. The plans prepared for construction were at a local datum which is 691.65 feet lower than mean sea level.

i. Normal Operating Procedure

The primary outlet from Peacham Pond is controlled by a manual gate located on the outlet control tower. According to Green Mountain Power Corporation personnel the site is visited weekly and the gate adjusted depending on weather and flow conditions, to maintain the water level in the pond approximately one foot below the spillway crest. Under prolonged dry conditions the valve is opened further to allow flow to augment the storage in the Mollys Falls Reservoir.

1.3 Pertinent Data

a. Drainage Area

The total drainage area to Peacham Pond Dam is 5.87 square miles and the dam, at normal water surface, impounds 362 acres. The main channel is approximately 2.3 miles long and has an average slope of 410 feet per mile. The watershed is approximately 90 percent wooded. Elevations in the drainage area vary from 2,400 to 2,200 along the basin ridge line to 1,400 at Peacham Pond. The drainage area is mostly wooded rolling hills, with some field and meadows.

b. Description of Dam and Appurtenances

Peacham Pond Dam is an earth dam 795 feet in length and 26 feet maximum height with a concrete sill spillway 90 feet in length. The dam contains an intake structure having a 4-foot diameter concrete conduit through the base of the dam.

c. Size Classification

The Peacham Pond Dam is 26 feet high and has a usable storage volume of 5096 acre-feet. United States Corps of Engineers (USCE) guidelines place dams with heights between 40 and 100 feet and/or storage between 1,000 and 50,000 acre-feet in the intermediate category. Therefore, based on storage, the Peacham Pond Dam is classified as intermediate.

d. Hazard Classification

If the Peacham Pond Dam were to fail under Test Flood conditions for Marshfield #6 Dam (Probable Maximum Flood) it would release a major flood wave into the Mollys Falls Reservoir. Assuming that the Marshfield #6 Dam would not suffer a simultaneous failure the increased flow due to the Peacham Pond Dam failure in the Village of Marshfield would add approximately 4 feet to the flood levels due to the flow prior to a dam failure. This increase in flood level would only add a few more homes to the damage resulting from just the Test Flood flow. Therefore, the Peacham Pond Dam is classified as a significant hazard.

e. Ownership

The present owner of the Peacham Pond Dam is:

Green Mountain Power Corporation
P.O. Box 486, Green Mountain Drive
Montpelier, Vermont 05602

Telephone: 802-223-5235

f. Operator

The dam is operated by the Green Mountain Power Corporation employees under the supervision of:

Kenneth G. Hadd, Superintendent of System Operations
Green Mountain Power Corporation
P.O. Box 486, Green Mountain Drive
Montpelier, Vermont 05602

Telephone: 802-223-5235

NATIONAL DAM INSPECTION PROGRAM
PHASE I INSPECTION REPORT
NAME OF DAM: PEACHAM POND

SECTION 1 - PROJECT INFORMATION

1.1 General

a. Authority

Public Law 92-367, August 8, 1972, authorized the Secretary of the Army, through the Corps of Engineers, to initiate a National Program of Dam Inspection throughout the United States. The New England Division of the Corps of Engineers has been assigned the responsibility of supervising the inspection of dams within the New England Region. Dufresne-Henry Engineering Corporation has been retained by the New England Division to inspect and report on selected dams in the State of Vermont. Authorization and notice to proceed were issued to Dufresne-Henry Engineering Corporation under a letter of November 20, 1978 from Max B. Scheider, Colonel, Corps of Engineers. Contract No. DACW33-79-C-0010 has been assigned by the Corps of Engineers for this work.

b. Purpose

(1) Perform technical inspection and evaluation of non-federal dams to identify conditions which threaten the public safety and thus permit correction in a timely manner by nonfederal interests.

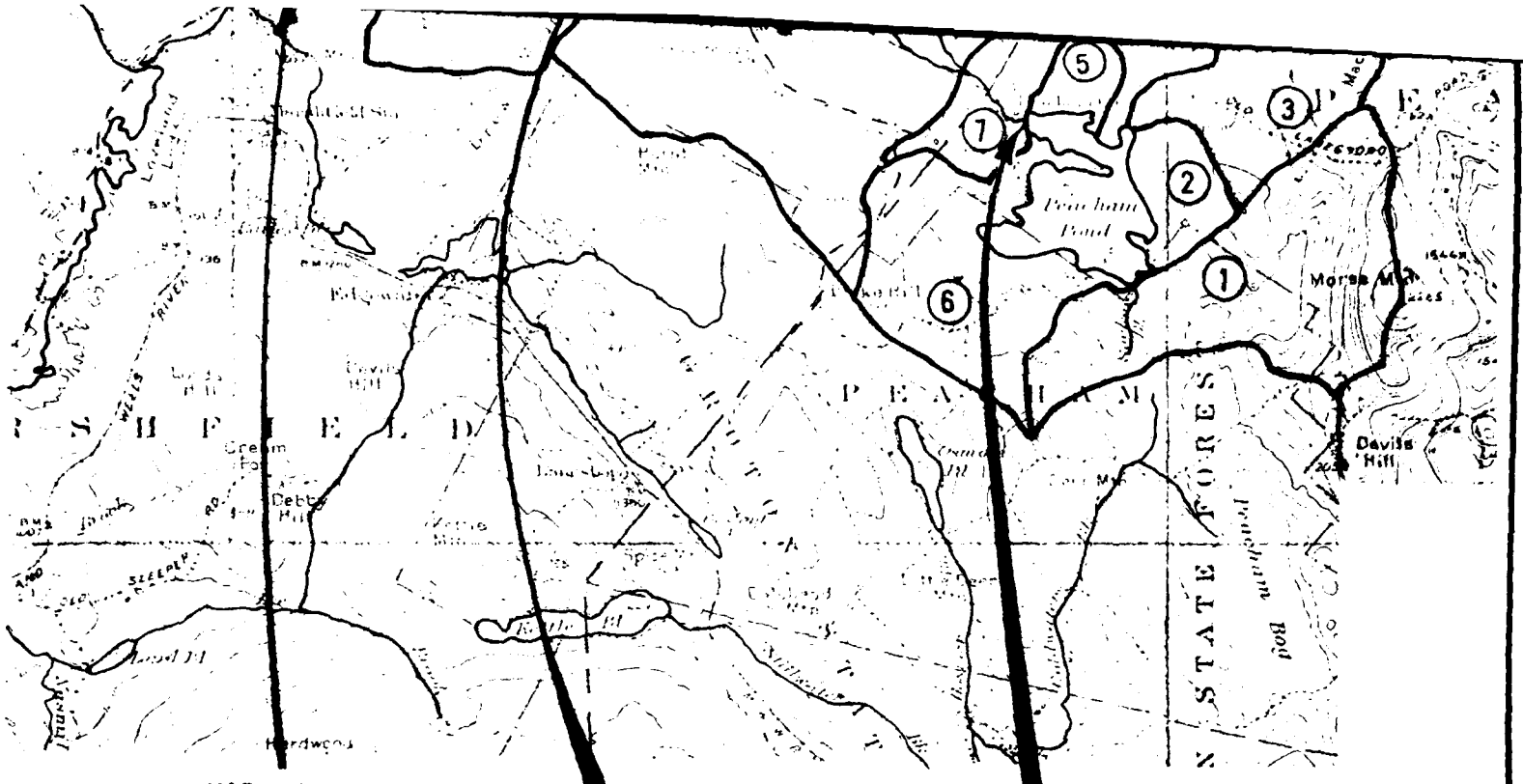
(2) Encourage and prepare the states to initiate quickly effective dam safety programs for nonfederal dams.

(3) To update, verify and complete the National Inventory of Dams.

1.2 Description of Project

a. Location

The Peacham Pond Dam is located in north central Vermont approximately 21 miles west of St. Johnsbury in the Town of Peacham, Caledonia County. The dam and reservoir are located on Peacham Pond Brook which is tributary to Mollys Falls Reservoir, the Winooski River and Lake Champlain. The map coordinates for the dam are 44°20.0' N, 72°15.9' W.



SOURCE OF MAP:

U.S. GEOLOGICAL SURVEY
PLAINFIELD, VT. &
ST. JOHNSBURY, VT.-N.H.
QUADRANGLES
15 MIN. SERIES
1:62500. 1953 & 1949

LEGEND

(5) SUB DRAINAGE AREAS FOR HEC 1

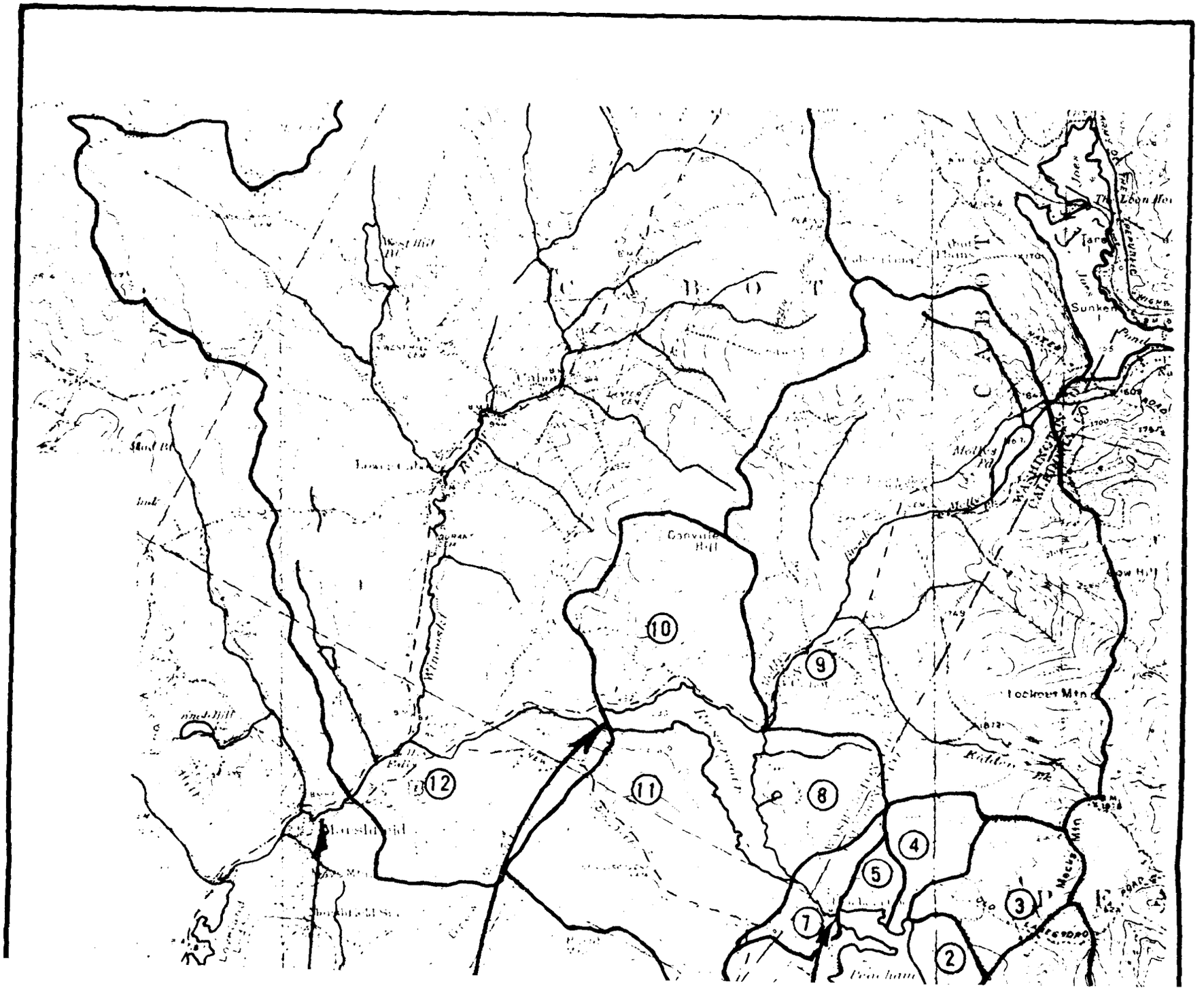
DUFRESNE-HENRY ENGINEERING CORP. ARCHITECT-ENGINEER	U.S. ARMY ENGINEER DIV. NEW ENGLAND CORPS OF ENGINEERS WALTHAM, MASS.

NATIONAL PROGRAM OF INSPECTION OF NON-FED. DAMS

LOCATION MAP

PEACHAM POND DAM

CLIENT NO.	04-0098		SCALE 1"=1 MILE
ENGINEER	S.G.E.		DATE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1. The concrete outlet control tower is experiencing some spalling and minor deterioration.

2. The outlet pipe is showing signs of deterioration at the downstream end and several interior locations.

3. Several seeps were observed downstream of the dam toe.

4. Debris in the reservoir could cause a blockage of the spillway.

5. Small trees and brush should be removed from the spillway channel and dam embankments.

SECTION 4 - OPERATIONAL PROCEDURES

4.1 Procedures

There are no established procedures for this dam. The dam is visited periodically by GMP personnel to record the water level and adjust the outlet gate if required.

4.2 Maintenance of Dam

Several old tree stumps were observed in the spillway section. At this point it is not known whether the stumps were deposited by high flows or used as campfire wood.

4.3 Maintenance of Operating Facilities

The mechanical gate mechanism has been maintained in good operating condition.

4.4 Description of Warning System

None exists for this dam.

4.5 Evaluation

Recommendations for improved maintenance are outlined in Section 7.

SECTION 5 - HYDROLOGIC/HYDRAULIC EVALUATION

5.1 Evaluation of Features

a. General

The Peacham Pond Dam is a rolled earth embankment dam built as a multipurpose, power and recreation, project. It is a high surcharge storage-low spillage type dam.

b. Design Data

Hydraulic or hydrologic design data for the Peacham Pond Dam was not available. Design drawings were obtained and are included in Appendix B.

c. Experience Data

The dam has not been overtopped in its 50-year life. The flood of record for this reservoir was the June 30, 1973 event when the reservoir level reached 1402.8 feet above MSL. The total estimated outflow for this event was estimated to be 205 CFS according to Green Mountain Power Corporation. The operations report for the June 30, 1973 flood is contained in Appendix B.

d. Visual Observations

The visual inspection revealed that the left abutment of the emergency spillway was obstructed by trees as seen in photograph number 6. Also it was noted that small conifers and floating debris along with material placed by trespassers were accumulating on the emergency spillway.

e. Test Flood Analysis

The dam is classified as intermediate size with a significant hazard potential as defined by the following dam failure analysis. The test flood selected was one-half the Probable Maximum Flood which was developed and routed through Peacham Pond by use of the HEC-1 Generalized Computer Program. The peak inflow of 10,200 CFS (1740 CSM) was reduced to a routed test flood outflow of 3400 CFS. The combined capacity of the emergency spillway and outlet is 4200 CFS which is 124 percent of the test flood. The test flood surcharge at an elevation of 1407.2 leaves a freeboard of 1.1 feet to the top of the dam.

f. Dam Failure Analysis

The failure of Peacham Pond Dam can have significantly different impacts on downstream property depending upon the water levels in the Marshfield #6 reservoir and the river through the Village of Marshfield just prior to the dam failing. For normal water levels in Marshfield #6, the instantaneous peak outflow of 79,800 CFS resulting from the failure of Peacham Pond Dam would be reduced to 6,100 CFS by routing through Marshfield #6 reservoir. This flow would not damage any downstream property. For this condition the hazard classification is low.

For a dam failure at Peacham Pond concurrent with the test flood for Marshfield #6 the additional discharge over the Marshfield #6 Dam would be 48,300 CFS. This additional flow would increase the PMF levels in Marshfield Village by about 4 feet and flood 3 more homes in addition to several structures already inundated. The hazard classification then for this dam is considered to be significant.

SECTION 6 - STRUCTURAL STABILITY

6.1 Evaluation of Structural Stability

a. Visual Observations

The visual inspection did not disclose any immediate stability problems.

b. Design and Construction Data

The available data is not sufficient to perform a formal stability analysis.

c. Operating Records

The file data, including past inspections and reports, contain no indications of stability problems.

d. Post-Construction Changes

Neither the visual inspection nor the file data contain any indication of significant structural changes since the original construction.

e. Seismic Stability

The dam is located in Seismic Zone 2 and in accordance with the recommended Phase I guidelines does not warrant seismic analysis.

SECTION 7 - ASSESSMENT, RECOMMENDATIONS/ REMEDIAL MEASURES

7.1 Dam Assessment

a. Condition

Based on the visual inspection and a review of available data, the dam appears to be in fair condition. Areas of concern include the condition of the concrete of the control tower and outlet pipe, the seepage under the dam and the amount of debris in the reservoir area.

b. Adequacy of Information

The information obtained from the visual inspection and file data was adequate for a Phase I inspection, but not for a formal stability analysis of the dam.

c. Urgency

The recommendations and remedial measures should be completed within one year of the receipt of this report.

d. Need for Additional Information

The Phase I inspection does not require any additional information at this time.

7.2 Recommendations

The following actions should be completed under the guidance of a registered professional engineer, qualified in dam design:

1. Repair the interior and headwall invert of the outlet pipe.

2. Repair the spalling concrete of the control tower.

7.3 Remedial Measures

a. Operation and Maintenance Procedures

1. Institute a program of annual technical inspections.

2. Seeps at the base of the dam should be monitored and condition recorded by Green Mountain Power personnel during weekly visits.

3. Remove brush, small trees and debris from the spillway channel on a regular basis.

4. Institute a formal warning system.

7.4 Alternatives

None.

APPENDIX A

VISUAL INSPECTION CHECK LIST

VISUAL INSPECTION CHECK LIST
PARTY ORGANIZATION

PROJECT PEACHAM POND DAM

DATE May 1, 1979

TIME 1:30 - 4:00

WEATHER Cool, light rain

W.S. ELEV. _____ U.S. ____ DN.S.

PARTY:

1. Walter A. Henry D-H
2. James A. Dohrman D-H
3. Sherward G. Farnsworth D-H
4. Gonzalo Castro GEI
5. Roger Gardner GEI
6. Ken Hadd, Green Mountain Power Corp.
7. Peter Barranco, State of Vermont, Water Resources
8. _____
9. _____
10. _____

PROJECT FEATURE	INSPECTED BY	REMARKS
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

PERIODIC INSPECTION CHECK LIST

PROJECT PEACHAM POND DAM DATE May 1, 1979

PROJECT FEATURE _____ NAME _____

DISCIPLINE _____ NAME _____

AREA EVALUATED	CONDITION
DAM EMBANKMENT	Local Datum (mean sea level elevation)
Crest Elevation	Elev. 716.5 feet (1,408.2)
Current Pool Elevation	Elev. 709.3 feet (1,401.0)
Maximum Impoundment to Date	Elev. 711.1 feet (1,402.8) 2,482 acre-feet
Surface Cracks	None observed.
Pavement Condition	Gravel - good, but with some erosion.
Movement or Settlement of Crest	None observed.
Lateral Movement	None observed.
Vertical Alignment	Good.
Horizontal Alignment	Good.
Condition at Abutment and at Concrete Structures	Good.
Indications of Movement of Structural Items on Slopes	Slight downslope movement of abutment of footbridge to control tower
Trespassing on Slopes	Minor.
Sloughing or Erosion of Slopes or Abutments	Minor erosion due to trespassing on slopes.
Rock Slope Protection - Riprap Failures	None observed.
Unusual Movement or Cracking at or Near Toes	None observed.
Unusual Embankment or Downstream Seepage	Some generalized wet areas.
Piping or Boils	None observed.
Foundation Drainage Features	None known.
Vegetation	Small brush downstream face of dam. Small coniferous trees right spillway abutment.
Toe Drains	Rock drain at toe.
Instrumentation System	Gauge board on control tower.

PERIODIC INSPECTION CHECK LIST

PROJECT PEACHAM POND DAM DATE May 1, 1979

PROJECT FEATURE _____ NAME _____

DISCIPLINE _____ NAME _____

AREA EVALUATED	CONDITION
OUTLET WORKS - CONTROL TOWER	
a. Concrete and Structural	
General Condition	Good.
Condition of Joints	Good.
Spalling	Minor at railing supports.
Visible Reinforcing	None.
Rusting or Staining of Concrete	Minor.
Any Seepage or Efflorescence	Minor efflorescence.
Joint Alignment	Good.
Unusual Seepage or Leaks in Gate Chamber	Seepage around gate, bank; estimate 1-2 cfs.
Cracks	None observed.
Rusting or Corrosion of Steel	None.
b. Mechanical and Electrical	
Air Vents	Not applicable.
Float Wells	Not applicable.
Crane Hoist	Not applicable.
Elevator	Not applicable.
Hydraulic System	Not applicable
Service Gates	Manual operator.
Emergency Gates	Not applicable.
Lightning Protection System	None.
Emergency Power System	Not applicable.
Wiring and Lighting System in Control Chamber	Not applicable.

PERIODIC INSPECTION CHECK LIST

PROJECT PEACHAM POND DAM DATE May 1, 1979

PROJECT FEATURE _____ NAME _____

DISCIPLINE _____ NAME _____

AREA EVALUATED	CONDITION
OUTLET WORKS - TRANSITION AND CONDUIT	
General Condition of Concrete	Fair, poured-in-place, with rat holes; one hole 4" x 4" x 15".
Rust or Staining on Concrete	Minor staining.
Spalling	Rat holes.
Erosion or Cavitation	Some erosion of outlet invert and erosion around gate.
Cracking	Major cracking at several joints, 1-1/4-inch around at 40' in from outlet.
Alignment of Monoliths	Fair.
Alignment of Joints	Fair.
Numbering of Monoliths	
	Leakage at service gate to control tower.

PERIODIC INSPECTION CHECK LIST

PROJECT PEACHAM POND DAM DATE May 1, 1979

PROJECT FEATURE _____ NAME _____

DISCIPLINE _____ NAME _____

AREA EVALUATED	CONDITION
OUTLET CHANNEL	
General Condition of Concrete	
Rust or Staining	
Spalling	
Erosion or Cavitation	
Visible Reinforcing	
Any Seepage or Efflorescence	
Condition at Joints	
Drain Holes	
Channel	Rock lined channel.
Loose Rock or Trees Overhanging Channel	Few.
Condition of Discharge Channel	Excellent

PERIODIC INSPECTION CHECK LIST

PROJECT PEACHAM POND DAM DATE May 1, 1979

PROJECT FEATURE _____ NAME _____

DISCIPLINE _____ NAME _____

AREA EVALUATED	CONDITION
OUTLET WORKS - SPILLWAY WEIR, APPROACH AND DISCHARGE CHANNEL	EMERGENCY SPILLWAY
a. Approach Channel	Stone riprap.
General Condition	Good.
Loose Rock Overhanging Channel	None.
Trees Overhanging Channel	None.
Floor of Approach Channel	Earth, some grass and small brush.
b. Weir and Training Walls	
General Condition of Concrete	Good.
Rust or Staining	Minor.
Spalling	None.
Any Visible Reinforcing	None.
Any Seepage or Efflorescence	Minor.
Vegetation	Left abutment, small coniferous trees.
Drain Holes	None observed.
c. Discharge Channel	Stone riprap.
General Condition	Good.
Loose Rock Overhanging Channel	None.
Trees Overhanging Channel	None.
Floor of Channel	Earth, grass, small trees at downstream end of channel.
Other Obstructions	Stumps (see photos).

GREEN MOUNTAIN POWER CORPORATION

INSPECTION REPORT
ON
PEACHAM POND Dam

1. Date of inspection 6-15-54 2. Water conditions Elev. 710.4 Valve open 2"

GENERAL DATA:

3. Location of dam Peacham Brook, Town of Peacham

4. Owner and operator Green Mt. Power Corp.

5. Characteristic features of dam Embankment dam 25 ft. high with open crest overflow in original material at south end.

6. Other related data Natural pond source of Winooski River spills into Molly's Pond

OBSERVATIONS:

7. Condition of structure Satisfactory

8. Condition of equipment Satisfactory

9. Operation Satisfactory

10. Maintenance Spillway section cleared of brush

REMARKS:

Inspected by

J. H. Baker
Manager of Operations

Dams: Hydro Electric

INSPECTION REPORT
ON
PEACHAM POND Dam

1. Date of inspection April 24, 1953 2. Water conditions Below spillway Crest

GENERAL DATA:

3. Location of dam Peacham Brook, Town of Peacham

4. Owner and operator Green Mt. Power Corp.

5. Characteristic features of dam Embankment dam 25 ft. high wi open crest overflow in original material at south end.

6. Other related data For a detailed information see PSC case file 1562 and writers initial report on structure (dated May 25, 1949)

OBSERVATIONS:

7. Condition of structure Same amount of seepage as noted previously. More advanced erosion at discharge end of condui Detected minor slop erosion resulting from rain water wash.

8. Condition of equipment Satisfactory

9. Operation Satisfactory

10. Maintenance Satisfactory

REMARKS:

No change in the status of this dam

Inspected by Stephen H. Haybrook

PEACHAM POND DAM CONTINUED:

A beaver-dam obstruction exists in the tailrace of sluiceway. However, it would not interfere with any flood flow passing the spillway.

Conclusion:

The writer concludes that the dam appears in good condition as far as its safety is concerned.

Stephen H. Haybrook

STEPHEN H. HAYBROOK
HYDRAULIC ENGINEER

Public Service Commission
Montpelier, Vermont
May 25, 1949
SHH:BS

Report No. 57

PEACHAM POND DAM CONTINUED:-

History of the dam:-

Peacham Pond dam was constructed in 1929-30. At that time H. K. Barrows, consulting engineer, was retained by the Commission as engineer for the project. He reviewed the design and supervised the construction. According to his report (filed in P.S.C. case No. 1562) the construction was properly carried out.

This dam was originally designed and constructed as part of a future hydro-electric power plant. Company officials now believe that the site is uneconomical for further development. Thus it remains as a storage reservoir, for developments downstream.

Condition of the dam:

The writer examined the structure on May 10, 1949 and made the following observations:

The pond surface was at a level about a foot below spillway crest. Discharge past the dam was being controlled by means of the intake structure and sluiceway;

Slight seepage was observed, particularly at the center section where the hydrostatic head is the greatest. It is noted that Mr. Barrows observed seepage at the time the dam was built. Indications are that the present quantity of seepage has not materially increased over the seepage existing in 1930. The rock downstream toe, assumed to be graded, serves to stabilize the embankment slope.

In general, the dam and appurtenant structures, appeared in good condition, indicating that proper maintenance is given to the development. The downstream end of the sluiceway conduit showed signs of erosion but the condition was not serious.

REPORT ON PEACHAM POND DAM

Description:

The Peacham Pond dam of the Green Mountain Power Corporation is located on Peacham Brook in the town of Peacham. It supplements the storage capacity of Molly's Falls Reservoir, which is located about one mile below Peacham Pond.

At spillway crest level the surface area of Peacham Pond is about 370 acres and its storage capacity is about 150,000,000 cu. ft. The drainage area is 7 sq. mi.

The dam is constructed of homegoneous earth fill about 700 ft. long and 25 ft. high at its maximum section. It has a top width of 10 ft. and, in general, the upstream slope is 1-on-3 and the downstream slope is 1-on-2. The upstream slope is covered with 12 inches of stone rip-rap. The downstream slope is covered with sod and is well reinforced with a rock-fill toe. The structure is founded on hard-pan (earth).

At the south end of the embankment, a spillway section, 90 ft. long, is formed between concrete abutments; and consists of a vertical cut-off wall 2 ft. thick and extended 5 ft. into the impervious material. Downstream from the cut-off wall the channel is paved for 55 ft. with stone laid dry and finished off with a 5 ft. masonry cut-off.

Outlet works through the middle of the dam include an intake structure, a concrete gate house with a 5 ft. diameter iron sluice gate, manually operated; and a 4 ft. diameter concrete conduit extended for 125 ft. through the embankment.

Details of the dam and appurtenant structures are contained in P.S.C. case file No. 1562.

CONCLUSIONS AND RECOMMENDATIONS

This project was designed and supervised by competent engineers who have had full charge of the work. While the spillway and its control are constructed upon earth formation, this is of long and in previous material and the construction is proper for these conditions.

It does not appear likely that wash will occur at the downstream end of the spillway channel, as due to the small reservoir drainage area and its relatively low water rise, flow over the spillway will seldom be of any considerable amount. The condition of this spillway channel should however be noted from time to time and any repairs made if necessary.

This dam as constructed in my judgment provides adequately for the public safety and its manner of construction is satisfactory.

Acknowledgments are made to the engineers of the Trojan Engineering Corporation for assistance and courtesies rendered.

Respectfully submitted,

E. J. Tipton

Accompanied by Plans

M-92-1
M-92-2

[illegible]

[illegible]. [illegible] the [illegible] the height of the [illegible].

[illegible]. Visited the job with Mr. H. C. Clyatt. [illegible], all main compaction [illegible] - including; [illegible] the [illegible] of [illegible] the [illegible]. [illegible] to have information on the reports with decisions that must be prompt. All suggestions were carried out.

June 18,1950. Visited job with Mr. P. A. Shaw of the [illegible] Dredging Corporation (who constructed the work) and Mr. H. C. Clyatt. Earth embankment nearly completed and well compacted. By working continuously night and day, and also due to good weather conditions, no trouble was experienced with frozen earth fill.

Shortly after this date the embankment was completed and work ceased for the winter.

June 30,1950. Visited job with Inspector Perry, particularly to note conditions on spillway, where some of the slope paving was in progress. At this time about 4 inches depth of water was flowing over the spillway and the reservoir was full.

Apr. 19,1950. Visited job to note conditions at spillway. Reservoir full to near spillway level; no apparent seepage at spillway cutoff and work completed; earth embankment well compacted and only very slight seepage noted at a few points at foot of slope.

Office Work. This has included a study to determine the adequacy of the spillway and its channel and a general review of design. These were found satisfactory.

[illegible] ft. [illegible] at El. 710.6
[illegible] 710.5,
[illegible]
[illegible]
[illegible]
[illegible] ft. [illegible]

[illegible] x 5 x 6.3 ft.
[illegible]
[illegible] con-
[illegible]
[illegible]
[illegible] ft.
[illegible]
[illegible] at the bottom
of the [illegible] near the [illegible],
with [illegible] at its outlet for protection against
scour.

A concrete cutoff, 8.5 ft. square and 12" thick, is located in the middle of the outlet conduit, one 25 ft. upstream and another 25 ft. downstream from the middle.

The gate house is located near the foot of the upstream slope of the dam, with connection to the top of the embankment by a foot bridge of steel and wooden plank floor.

Details of the various portions of the dam and its accessories are shown upon plans M-98-1 and M-98-2, appended.

APPENDIX B

PROJECT RECORDS AND PLANS

1. Listing of Design, Construction and Maintenance Records

   a. Estimated Construction Quantities
   b. Final Construction Report by H. K. Barrows

2. Copies of Past Inspection Reports

   a. Inspection Report by Vermont Public Service Commission, dated May 25, 1949
   b. Inspection by Public Service Commission, April 24, 1953
   c. Inspection by Green Mountain Power Corporation, June 15, 1954

3. FERC application dismissal notification, August 24, 1979

PERIODIC INSPECTION CHECK LIST

PROJECT PEACHAM POND DAM DATE May 1, 1979

PROJECT FEATURE _____ NAME _____

DISCIPLINE _____ NAME _____

AREA EVALUATED	CONDITION
RESERVOIR AREA	
Stability of Shoreline	Good, some floating debris, stumps and logs.
Sedimentation	Could not observe.
Changes in Watershed Runoff Potential	None known.
Upstream Hazards	Camps near water.
Downstream Hazards	Increased flow to Marshfield #6, then the Village of Marshfield.
Alert Facilities	Personal observations.
Hydrometeorological Gauges	Gauge board on tower.
Operational and Maintenance Regulations	None known.

PERIODIC INSPECTION CHECK LIST

PROJECT PEACHAM POND DAM DATE May 1, 1979

PROJECT FEATURE _____ NAME _____

DISCIPLINE _____ NAME _____

AREA EVALUATED	CONDITION
OUTLET WORKS - SERVICE BRIDGE	
a. Super Structure	
Bearings	Good.
Anchor Bolts	Good.
Bridge Seat	Good.
Longitudinal Members	Good, steel I-beams.
Underside of Deck	Good.
Secondary Bracing	Good.
Deck	Wood, good condition.
Drainage System	Not applicable.
Railings	Fair, anchors are eroding on tower.
Expansion Joints	Not applicable.
Paint	Good.
b. Abutment and Piers	
General Condition of Concrete	Good.
Alignment of Abutment	Slight downslops movement.
Approach to Bridge	Good.
Condition of Seat and Backwall	Good.

PERIODIC INSPECTION CHECK LIST

PROJECT PEACHAM POND DAM DATE May 1, 1979

PROJECT FEATURE _____ NAME _____

DISCIPLINE _____ NAME _____

AREA EVALUATED	CONDITION
OUTLET WORKS - SERVICE BRIDGE	
a. Super Structure	
Bearings	Good.
Anchor Bolts	Good.
Bridge Seat	Good.
Longitudinal Members	Good, steel I-beams.
Underside of Deck	Good.
Secondary Bracing	Good.
Deck	Wood, good condition.
Drainage System	Not applicable.
Railings	Fair, anchors are eroding on tower.
Expansion Joints	Not applicable.
Paint	Good.
b. Abutment and Piers	
General Condition of Concrete	Good.
Alignment of Abutment	Slight downslops movement.
Approach to Bridge	Good.
Condition of Seat and Backwall	Good.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Green Mountain Power Corporation) Project Nos. [illegible]
2480, and 2653

ORDER DISMISSING APPLICATIONS
FOR LICENSE

(Issued August 24, 1979)

Green Mountain Power Corporation (GMPCO) has filed applications for license for its constructed Molly's Falls Project No. 2439, Middlesex Project No. 2480, and Gorge Project No. 2653, all located on the Winooski River in the State of Vermont.

The Molly's Falls Project was completed in 1929. The project consists of an earth dam 700 feet long and 26 feet high, Peacham Pond Storage Reservoir with 2,867 acre-feet of usable storage capacity, an earthfill dam 980 feet long and 48 feet high, a reservoir with a storage capacity of 8,078 acre-feet, a 6-foot-diameter penstock 8,293 feet in length, a surge tank, and a powerhouse containing a 5,000-kW generating unit. Project power is sold to customers in the Vermont area or transmitted over GMPCO's transmission system to New England Power Company's (NEPCO) interconnected transmission system.

Constructed in 1929, the Middlesex Project consists of a concrete gravity dam 283 feet long and 50 feet high, a reservoir with a surface area of 33 acres, two 9-foot-diameter steel penstocks 80 feet long, a powerhouse containing two generating units with a total installed capacity of 3,200 kW, a 2.3/34.5-kV substation, and a 34.5-kV transmission line 300 feet long. The Middelsex Project power is also sold to customers in the Vermont area or transmitted over GMPCO's system to NEPCO's transmission system.

Completed in 1928, the Gorge Project consists of a stone masonry dam 48 feet high and 95 feet long, a concrete dam 42 feet high and 298 feet long, a reservoir with no appreciable storage capacity, a rock channel 195 feet long,

a short steel penstock and a powerhouse containing a 3,000-kW generating unit. Power from this project too is sold to customers in the Vermont area or transmitted over GMPCO's system to NEPCO's transmission system.

Navigability

Section 23(b) of the Federal Power Act (Act), 16 U.S.C. §817, requires the licensing of projects located on navigable waterways of the United States. The staff has researched the navigability of the Winooski River and found that from its mouth to river mile 9.5 (Winooski Falls), the Winooski was used for logging and boating. The staff has uncovered no evidence, however, that the Winooski is navigable upstream from that point. 1/ There is evidence of the existence of numerous sawmills in the area, but no reference has been found to the running of logs above Winooski Falls. Based on the available information here, there is insufficient evidence to find at this time that the Winooski River above river mile 9.5 is navigable within the meaning of Section 3(8) of the Act, 16 U.S.C. §796(8). If new evidence is uncovered in the future showing that the river is navigable, Section 23(b) would, of course, require licensing of the projects; and under Section 4(g) of the Act, 16 U.S.C. §797(g), GMPCO could be ordered to apply for licenses.

Post-1935 Construction

If "post-1935 construction" has occurred at a project and the operation of the project affects the interests of interstate or foreign commerce, Section 23(b) requires licensing of the project even if it is not located on a

1/ This reach of the Winooski includes Project No. 2439 located at river mile 79.5, Project No. 2480 at river mile 49.3, and Project No. 2653 at river mile 10.6.

navigable waterway. 2/ Generally, post-1935 construction requires work that increases the project's head or its generating or water storage capacity or that otherwise significantly modifies the project's pre-1935 design or operation. See Puget Sound Power & Light Co. v. FPC, 557 F.2d 1311 (9th Cir. 1977).

The Molly's Falls, Middlesex, and Gorge Projects all were constructed before 1935. The record here does not indicate any post-1935 construction at any of the three projects. Therefore, Section 23(b) does not at this time appear to require licensing of the projects, 3/ which do not occupy any federal lands or utilize surplus water or water power from a government dam.

2/ Section 23(b) provides that any person intending to construct any project works across any non-navigable stream subject to Congressional authority under the commerce clause must first file a declaration of his intention to do so. The Commission then investigates the proposed construction and, if it finds that such construction would affect the interests of interstate commerce, the project must be licensed. The courts have held that this portion of Section 23(b) applies only to projects where construction has occurred after August 26, 1935. Farmington River Power Co. v. FPC, 455 F.2d 86 (2d Cir 1972). The kinds of construction that trigger a duty to file a declaration of intention are commonly called "post-1935 construction".

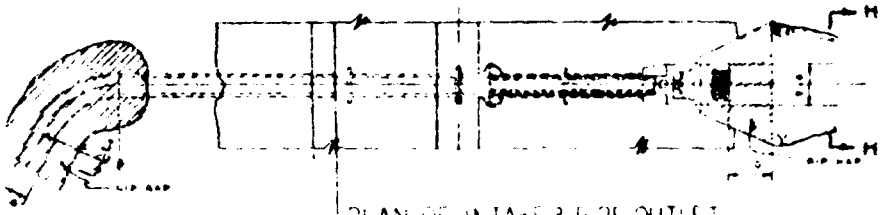
3/ Because there has been no "post-1935 construction", the question of whether any of the projects affects interstate commerce is not reached. If the owner of one of the projects proposed construction in the future, it would have to file a declaration of intention under Section 23(b), at which time the project's effect on interstate commerce would be examined.

It is ordered that: 4/

Green Mountain Power Corporation's applications for licenses for the Molly's Falls Project No. 2439, the Middlesex Project No. 2480, and the Gorge Project No. 2653 are dismissed for lack of adequate evidence that they are required to be licensed under Section 23(b) of the Federal Power Act. Their dismissal is without prejudice to any future determination, upon new or additional evidence, that licensing is required.

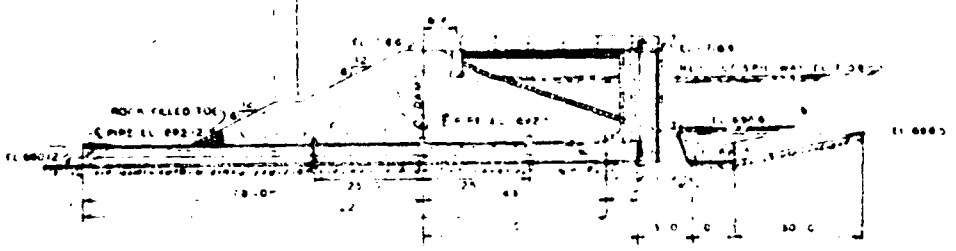
William W. Lindsay
Director, Office of Electric
Power Regulation

4/ This order is issued by delegation of authority under Section 3.5(g) of the Commission's Regulations, 18 CFR 3.5(g), as amended in Docket No. RM 78-19 (August 14, 1978) and Docket No. RM 79-59 (July 23, 1979).



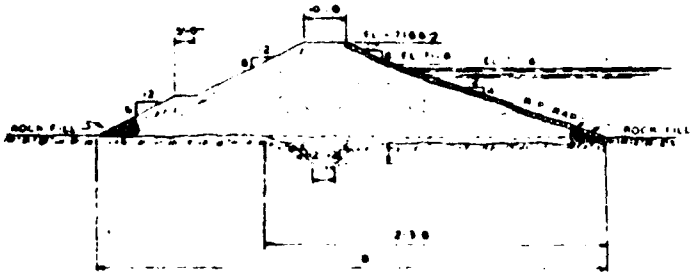
PLAN OF INTAKE & PIPE OUTLET

SCALE



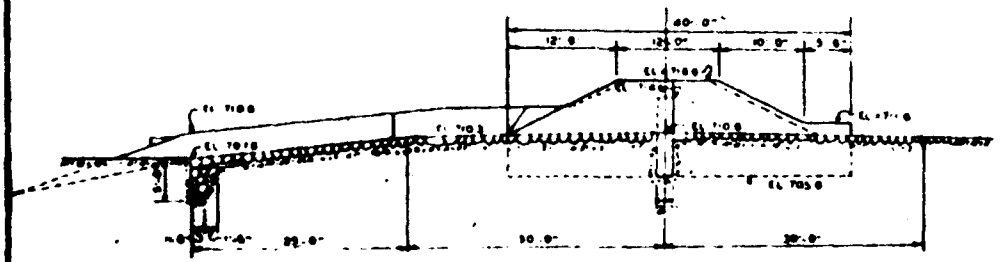
SECTION ON CENTER LINE OF PIPE

SCALE



TYPICAL SECTION THRU DAM

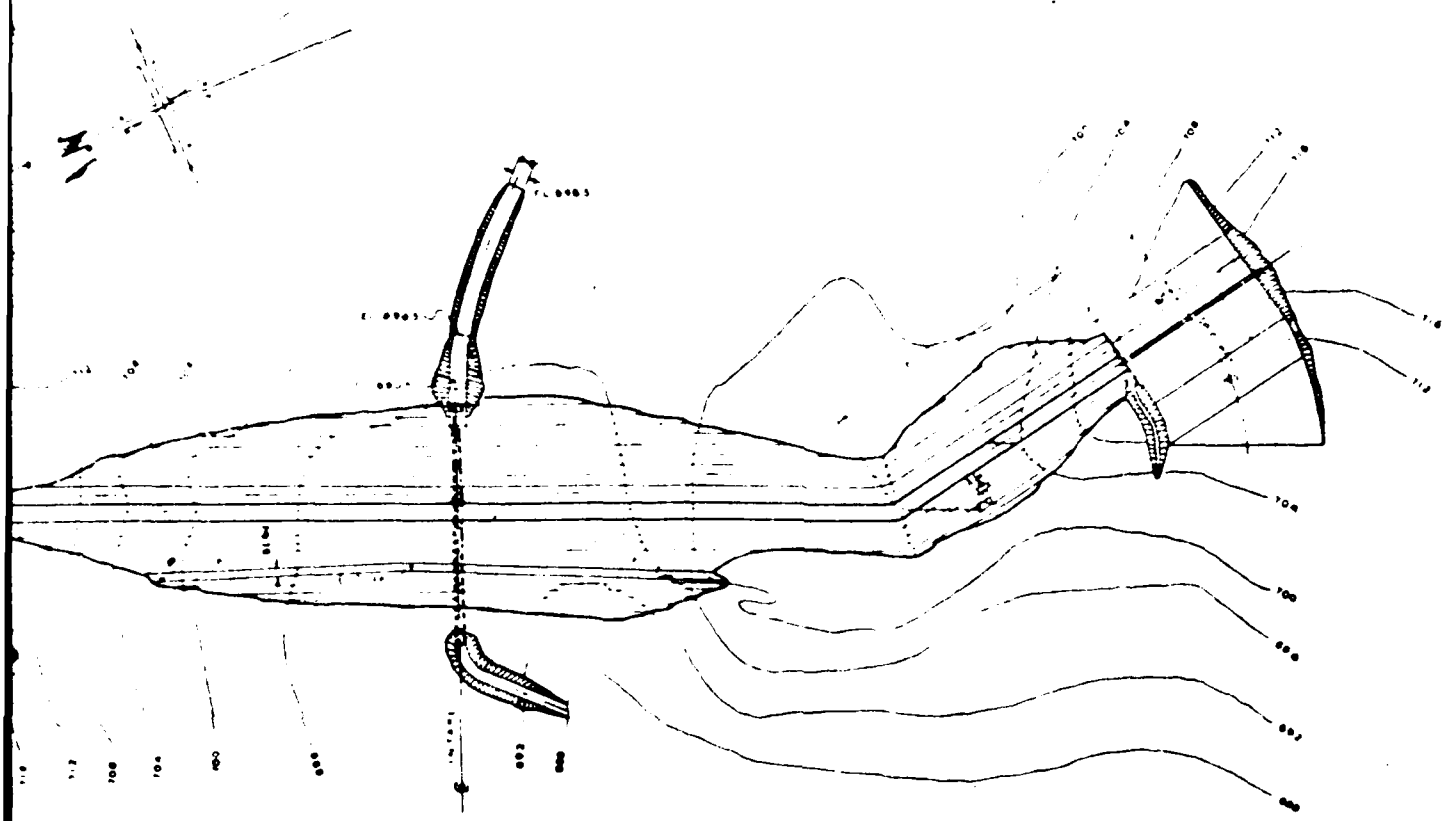
SCALE 1" = 20'-0"



SECTION A-A

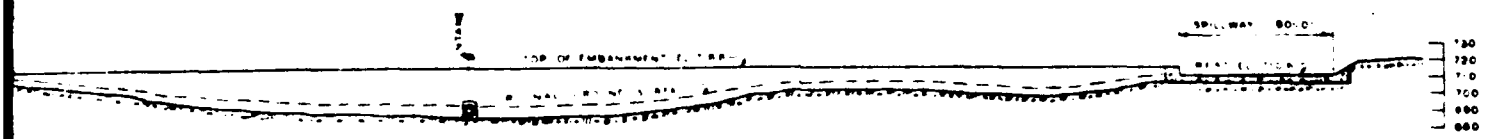
SCALE 1" = 12'-0"

NOTE



PLAN

SCALE 1" = 50'-0"



PROFILE ON CENTER LINE OF DAM

SCALE 1" = 50'-0"

NOTE: ELEVATIONS ARE SHOWN AT LOCAL DATUM
FOR MSL ADD 691.65

DIFRESNE-HENRY ENGINEERING CORP.	U.S. ARMY ENGINEER DIV. NEW ENGLAND
	CORPS OF ENGINEERS WALTHAM, MASS

NATIONAL PROGRAM OF INSPECTION OF NON-FED. DAMS

PEACHAM POND

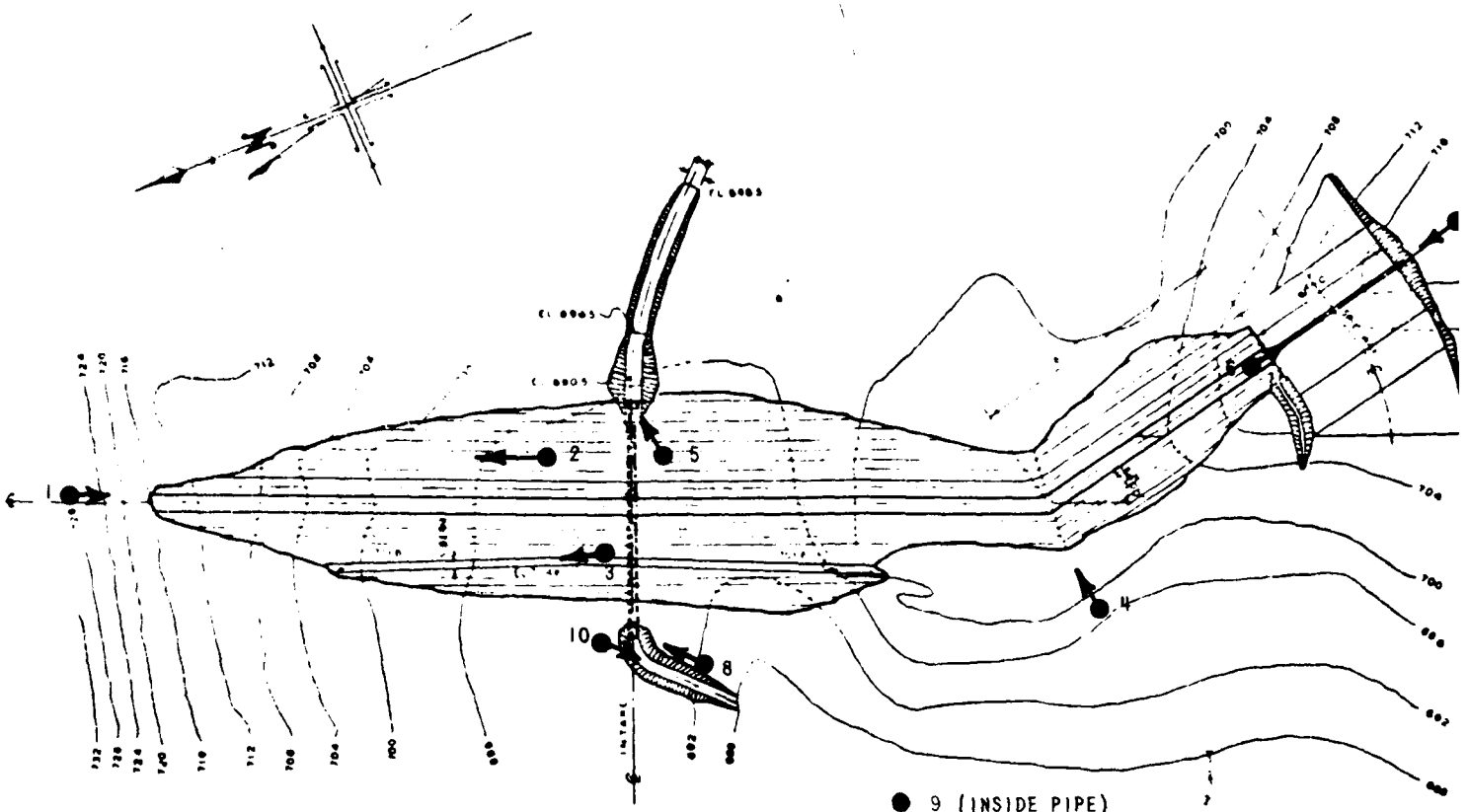
PLAN - SECTIONS

CLIENT NO	04-0098		SCALE N T S
ENG.	JAD		DATE 7-26-79

12

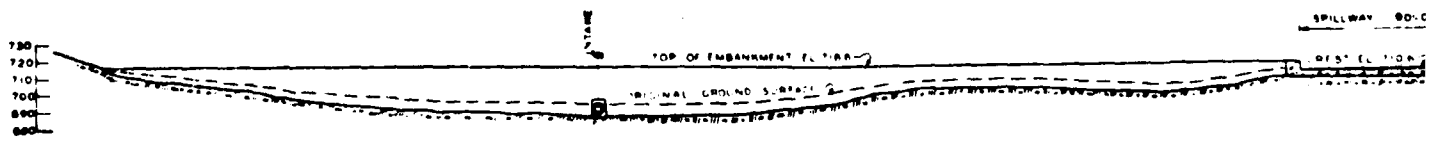
APPENDIX C

PHOTOGRAPHS



PLAN

SCALE 1"=50'-0"



PROFILE ON CENTER LINE OF DAM

SCALE 1"=50'-0"

PHOTO LOCATION AND NUMBER

NOTE: ELEVATIONS ARE SHOWN AT LOCAL DATUM
FOR MSL ADD 691 65

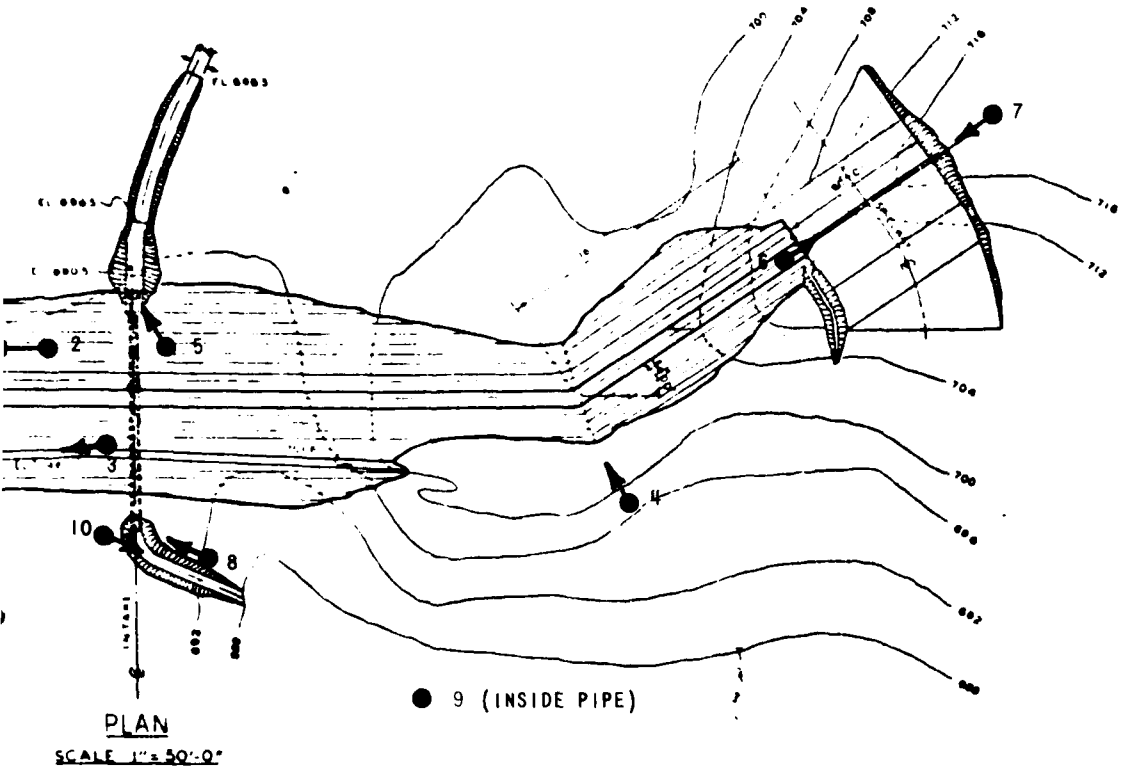
DUFRESNE-HENRY ENGINEERING CORP. ARCHITECT-ENGINEER	U.S. ARMY ENGIN CORPS WAL

NATIONAL PROGRAM OF INSPECTION OF

PEACHAM POND

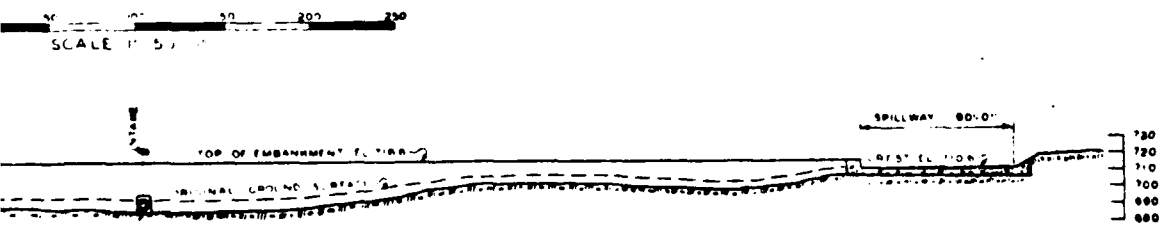
PHOTO LOCATION MAP

CLIENT NO	04-0098		SCALE N
ENG	JAD		DATE 7-26



PLAN

SCALE 1"=50'-0"



PROFILE ON CENTER LINE OF DAM

SCALE 1"=50'-0"

PHOTO LOCATION AND NUMBER

ARE SHOWN AT LOCAL DATUM
) 691 65

DUFRESNE-HENRY ENGINEERING CORP. ARCHITECT-ENGINEER	U.S. ARMY ENGINEER DIV. NEW ENGLAND CORPS OF ENGINEERS WALTHAM, MASS.

NATIONAL PROGRAM OF INSPECTION OF NON-FED. DAMS

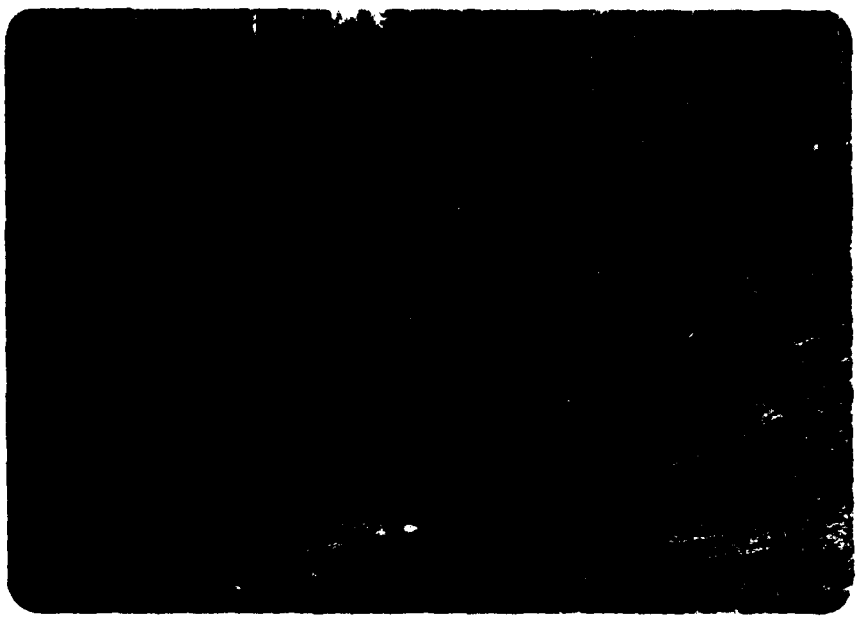
PEACHAM POND

PHOTO LOCATION MAP

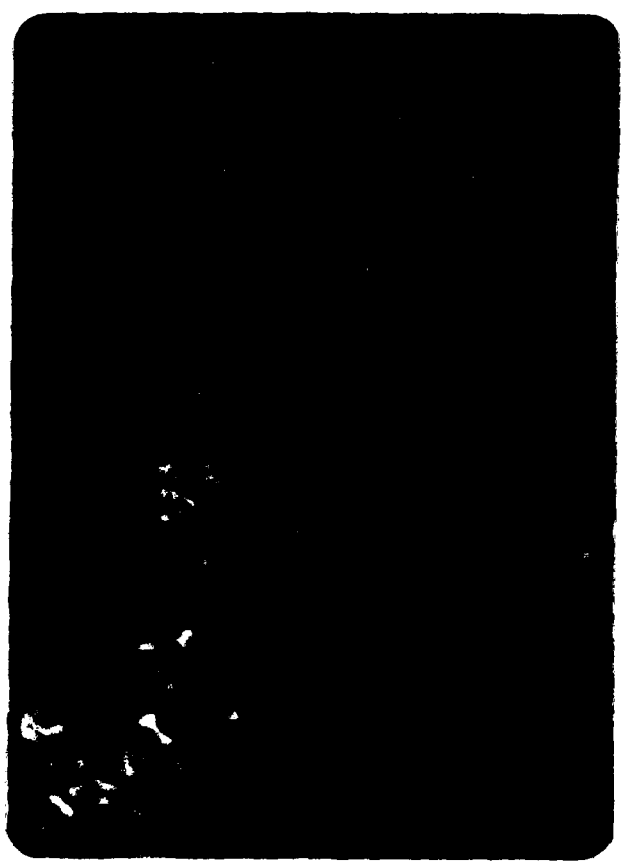
CLIENT NO	04-0098	SCALE	N T S
ENG	JAD	DATE	7-26-79

#1. VIEW OF TOP OF DAM, OUTLET CONTROL TOWER AND SERVICE BRIDGE.

#2. VIEW OF UPSTREAM SLOPE WITH RIPRAP.

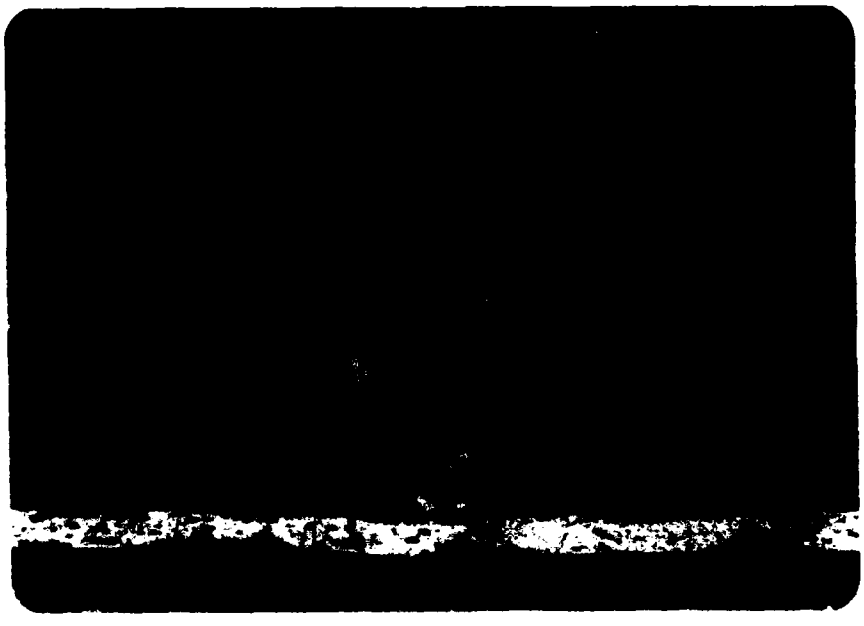


#3. VIEW OF DOWNSTREAM SLOPE SHOWING TOE DRAIN.



#4. VIEW OF SEEP AREA DOWNSTREAM OF TOE.

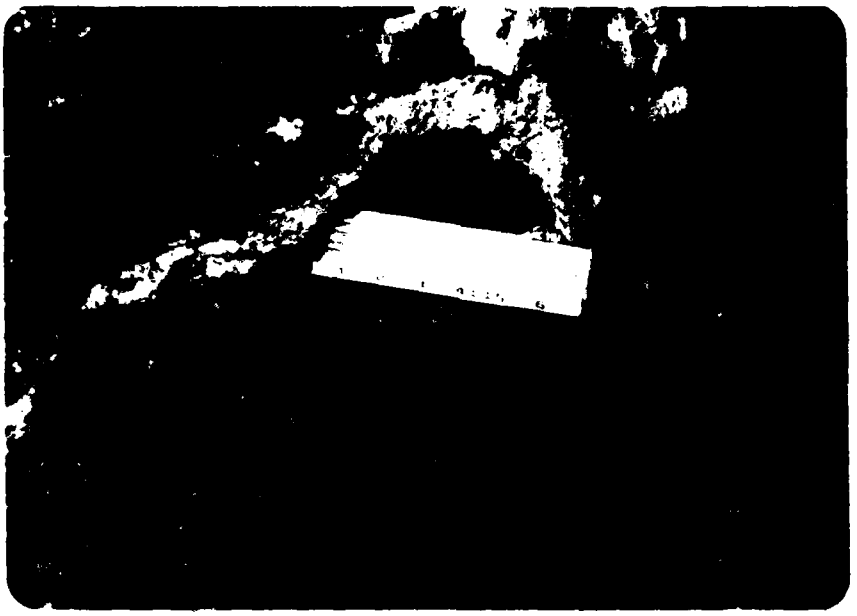
#5. VIEW OF DETERIORATING CONCRETE ON OUTLET CONTROL TOWER.



#6. VIEW OF EMERGENCY SPILLWAY LOOKING TOWARD LEFT ABUTMENT.

#7. VIEW OF EMERGENCY SPILLWAY LOOKING TOWARD MAIN DAM.

#8. VIEW OF PENSTOCK OUTLET AND BEGINNING OF DOWNSTREAM CHANNEL.



#9. VIEW OF INTERIOR PENSTOCK WALL SHOWING CONCRETE DETERIORATION AND INFILTRATION.

#10. VIEW OF DOWNSTREAM CHANNEL.

DUFRESNE-HENRY ENGINEERING CORPORATION

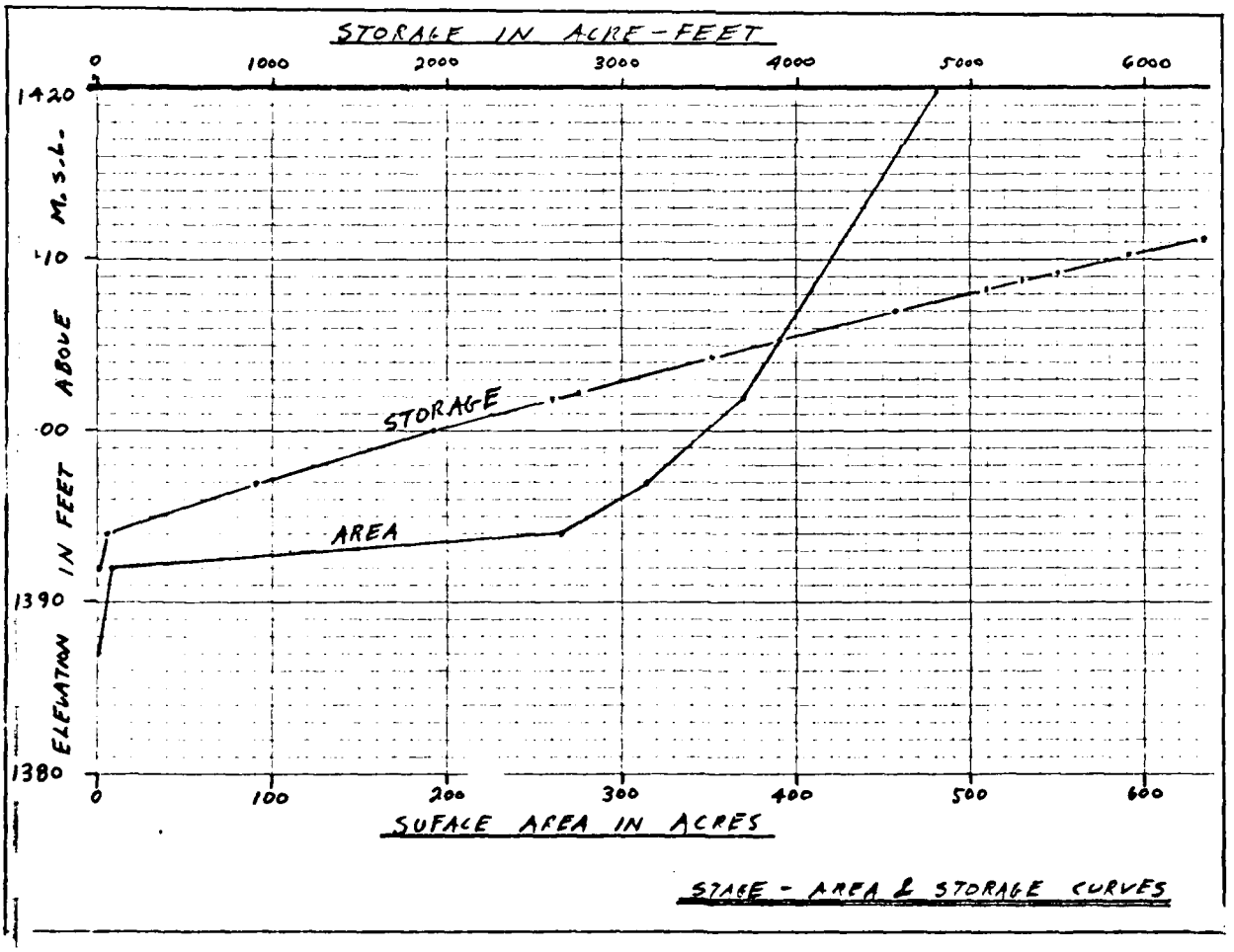
BY S.G. FARNSWORTH SUBJECT PEACHAM POND DAM SHEET NO. ____ OF ____
DATE 5-9-79 STAGE - AREA & STORAGE JOB NO. 04-0098

STAGE - AREA TABLE

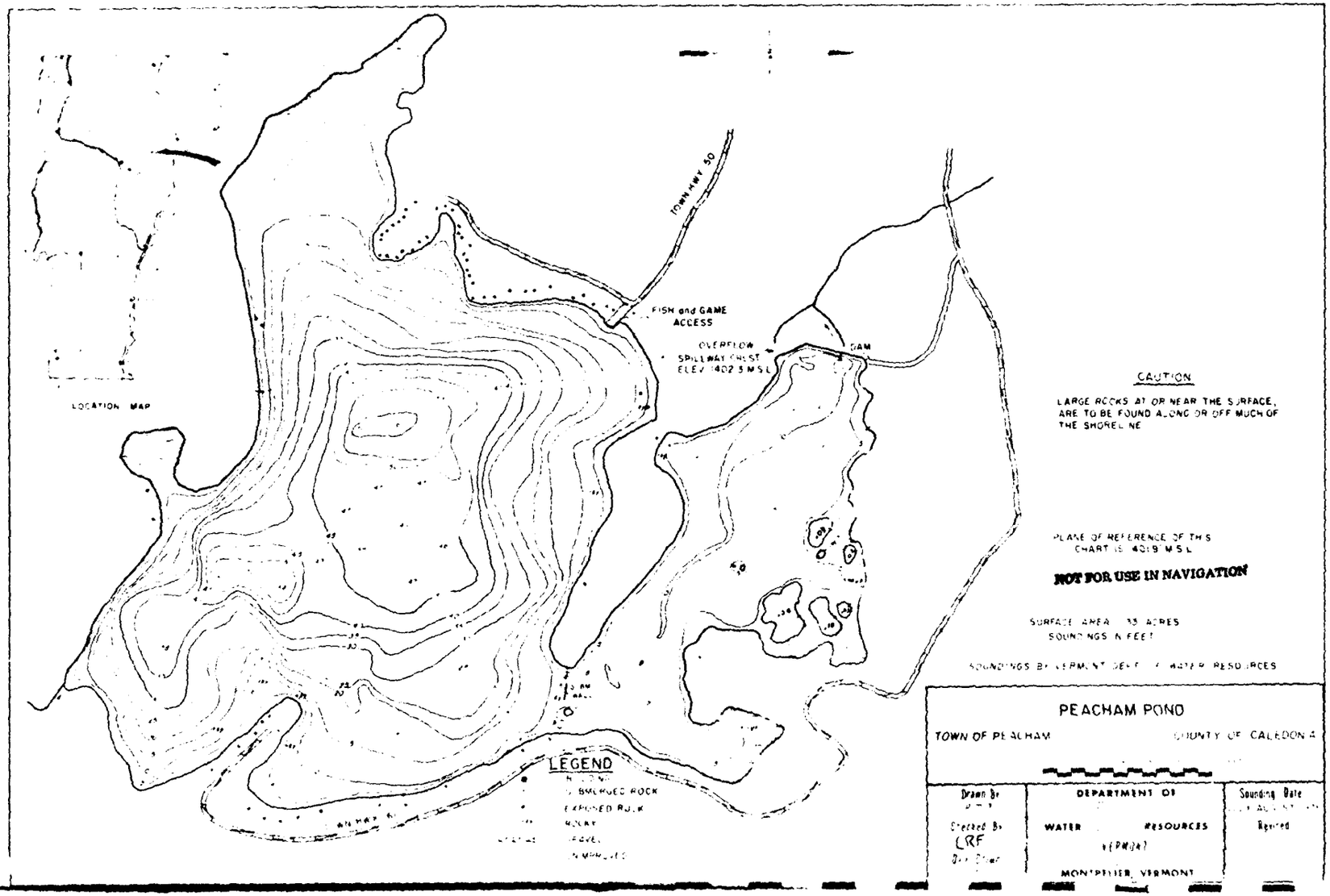
STAGE ELEVATION M.S.L (ft)	AREA IN ACRES		
	OUTLET POND	MAIN POND	TOTAL AREA
1386.9	0.1	PERCHED *	1
1391.9	8.1	STORAGE	8
1394	30	236	266
1396.9	59	257	316
1401.9	79	290	369
1420.0	→	→	479 **

* ACCORDING TO BOTH KEN HADD (GMP) AND PETER BARRANCO (VT. W.R.) THERE IS A WEIR IN THE OLD DAM WHICH LOWERS THE PERCHED STORAGE ELEVATION 2.0± FEET TO 1394.0±.
SEF 5/15/79

** FROM U.S.G.S. SHEET, $(0.77 IN^2)(5208 FT/IN)^2 \div 43,560 SF/AC = 479 AC$



STAGE - AREA & STORAGE CURVES



CAUTION

LARGE ROCKS AT OR NEAR THE SURFACE, ARE TO BE FOUND ALONG OR OFF MUCH OF THE SHORELINE

PLANE OF REFERENCE OF THIS CHART IS 1401.9' M.S.L.

NOT FOR USE IN NAVIGATION

SURFACE AREA 33 ACRES
SOUNDINGS IN FEET

SOUNDINGS BY VERMONT DEPT. OF WATER RESOURCES

PEACHAM POND

TOWN OF PEACHAM — COUNTY OF CALEDONIA

Drawn By	DEPARTMENT OF	Sounding Date
Checked By LRF	WATER RESOURCES (VERMONT)	Revised
	MONTPELIER, VERMONT	

DUFRESNE-HENRY ENGINEERING CORPORATION

BY S. G. FARRAGHER SUBJECT PEACHAM POND DAM SHEET NO. ____
DATE 5-2-79 STORAGE JOB NO. ____

ELEVATION	DEPTH	LOCATION & DEED AREA	SURFACE AREA
1401.9		OVER ALL POND **	
		{OUTLET POND AREA}	
1396.9	-5	$7.15\,IN^2 * (600\,FT/IN)^2 \div 43{,}560\,SF/AC = 59.1\,AC\text{-}FT$	
1391.9	-10	$0.981\,IN^2 * (600\,FT/IN)^2 \div 43{,}560\,SF/AC = 8.1$	
1386.9	-15	$0.01\,IN^2 * (600\,FT/IN)^2 \div 43{,}560\,SF/AC = 0.1$	
1401.9	0	$(10.08 - 0.98\,IN^2) * (600\,FT/IN)^2 \div 43{,}560\,SF/AC = 79.3$	
		{MAIN BODY OF POND} **	
1396.9	-5	$31.08\,IN^2 * (600\,FT/IN)^2 \div 43{,}560\,SF/AC = 256.9$	
1391.9	-10	$26.79\,IN^2 * (600\,FT/IN)^2 \div 43{,}560\,SF/AC = 221.0$	290 + 79.3 = 369.4 AC
1401.9	0	$35.10\,IN^2 * (600\,FT/IN)^2 \div 43{,}560\,SF/AC = 290$ →	
		*	
1401	-	U.S.G.S SHEET, AREA OF PEACH POND	
		$(.56\,IN^2)(5208\,FT/IN)^2 \div 43{,}560\,SF/AC = 358$	358 AC
1420		$(0.77\,IN^2)(5208\,FT/IN)^2 \div 43{,}560\,SF/AC = 479$	479 AC

SURFACE AREA AT TOP OF DAM, ELEV 1408.3

@ 1401.9 = 369.4 AC

@ 1420 = 479 AC

∴ @ 1408.3 = 408 AC

AREA @ 1394 FOR MAIN POND?

@ 1396.9, 256.9 AC
@ 1391.9, 221 AC

∴ @ 1394, 236 AC

AREA @ 1394, FOR OUTLET POND

@ 1396.9, 59.1
1391.9, 8.1

∴ @ 1394, 29.5 AC

* REFERENCE: U.S.G.S. QUADRANGLE, PLAINFIELD, VT., 1:62500, 1953

** REFERENCE, VT. DEPT. OF WATER RESOURCES, PEACH... DEPTH CONTOUR LINES.

DUFRESNE-HENRY ENGINEERING CORPORATION

SUBJECT MANSFIELD #6 SUB-AREA HYDROLOGY DATA

S.G. FARNSWORTH

DATE 5-14-79

SHEET NO. — OF —

JOB NO. 09-0697

SUB-AREA #	DRAINAGE AREA IN.²	DRAINAGE AREA SQ. MI.	LENGTH OF STREAM IN.	LENGTH OF STREAM MILES	L 10% (MILES)	ELEVATIONS @ 10% L (Ft)	ELEVATIONS @ 85% L (Ft)	S (Ft/Mi)	Tp (hrs)	REMARKS
7	0.53	0.52	0.52	0.51	.05	1230	1270	104	0.47	(C-D) TB = .10
8	1.00	.97	1.00	0.99	.10	1280	1770	660	.54	(A), TB = .40
9	10.71	10.42	5.58	5.50	.55	1410	1915	172	2.64	(B-E) TB = .17
10	2.07	2.01	1.95	1.92	.19	1320	1760	3.06	1.02	(B-C) TB = .10
11	3.78	3.68	1.67	1.65	.17	1280	1630	283	0.93	INCLUDES RES. **
SUB-TOTAL	—	17.6 SQ.M								
REACHAM 1-6	—	5.87								
		23.47 SQ.MI.								
12	29.45	28.754 M.	9.00	8.88	.89	875	1350	71	4.2 hrs	** TB .18

D-9

* 1 IN² = .973 SQ. MI.

S = (ELEV$_{85\%}$ − ELEV$_{10\%}$) / (75% L)

l = .6L

$$T_p = 22\left[\frac{L L_c}{\sqrt{S}}\right]^{.37}$$

** T10 → $\frac{.68}{3.68} = .18$

DUFRESNE-HENRY ENGINEERING CORPORATION

SHEET NO. 1 OF

JOB NO.

SUBJECT PEABHAM POND AREA SUB-AREA HYDROLOGY DATA-HEC1

BY S.G. FARNSWORTH DATE 5-8-78

SUB-AREA #	DRAINAGE AREA* IN.²	DRAINAGE AREA* SQ. MI.	LENGTH OF STREAM IN.	LENGTH OF STREAM MILES	L 10% (MILES)	ELEVATIONS @ 10% L (FT)	ELEVATIONS @ 85% L (FT)	S (FT/MI)	Tp (HRS)	REMARKS
1	1.89	1.84	2.3	2.27	.23	1420	2120	411	1.10	T7 ⇒ .41 C-C/POND T8 ⇒ .11
2	0.38	0.37	0.5	0.49	.05	1430	1800	1007	.3	C-C, T8 ⇒ .12
3	1.05	1.02	1.7	1.68	.17	1470	2140	532	.84	C-C, T8 ⇒ .12
4	0.59	.57	1.35	1.33	.13	1420	1750	331	.77	C-C 75% A 25% } T8 ⇒ .19
5	0.22	.22	.58	.57	.06	1410	1480	164	.47	C-C 50% A 50% } T8 ⇒ .26
6	1.90	1.85	.80	.79	.08	1425	1605	304	.53	INCLUES (POND) T8 ⇒ .12 100% C-C
		5.87 MILES								

D-8

* 1 IN² = 0.973 SQ. MI.

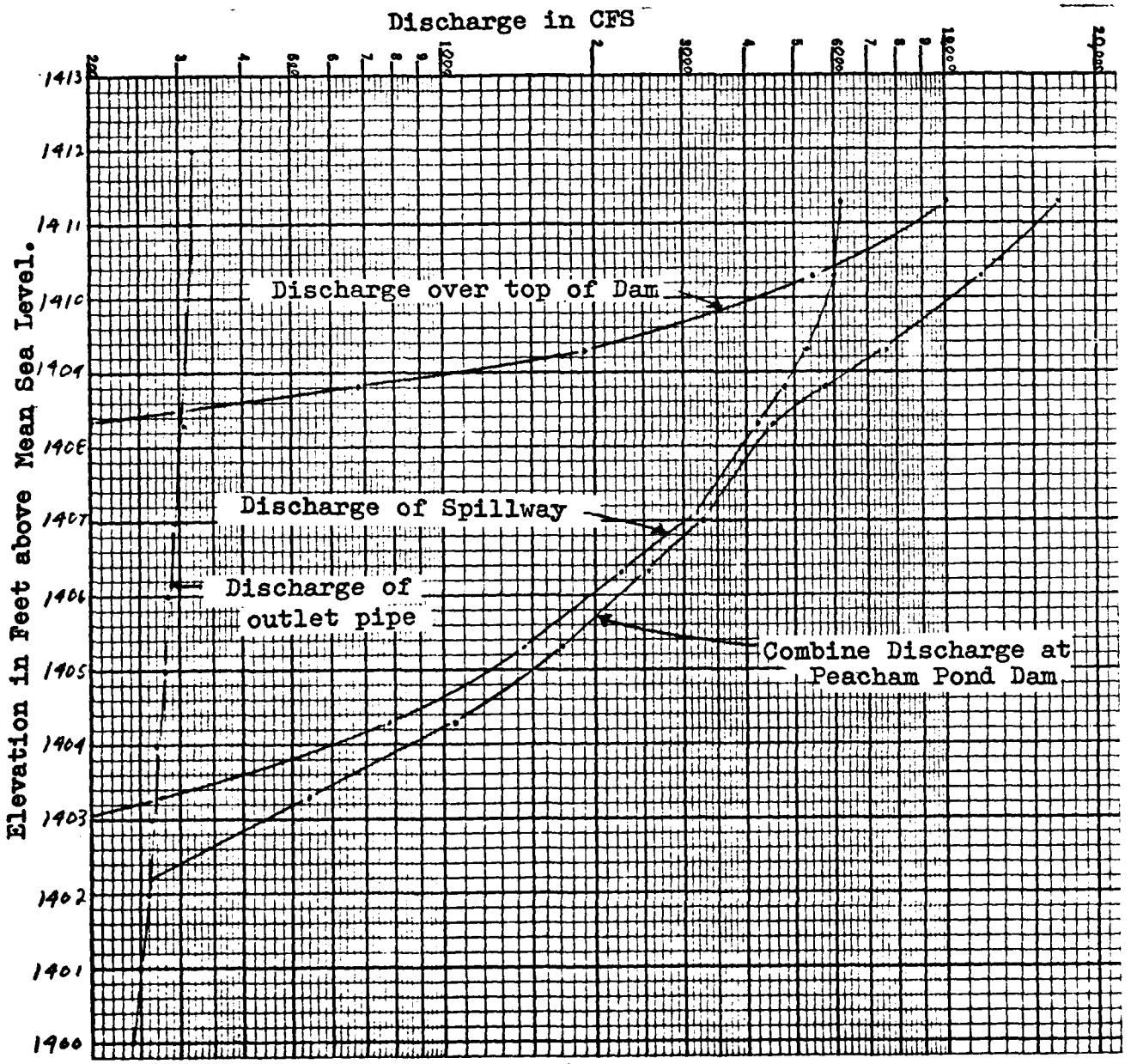
S = (ELEV$_{85\%}$ − ELEV$_{10\%}$) / (75% L)

L = .6L

$$T_p = 2.2 \left[\frac{L L_c}{\sqrt{S}} \right]^{.37}$$

DUFRESNE-HENRY ENGINEERING CORPORATION

BY S.G. FARNSWORTH SUBJECT PEACHAM POND DAM SHEET NO
DATE 5-9-79 DAM, STAGE - DISCHARGE JOB NO. 04-0098

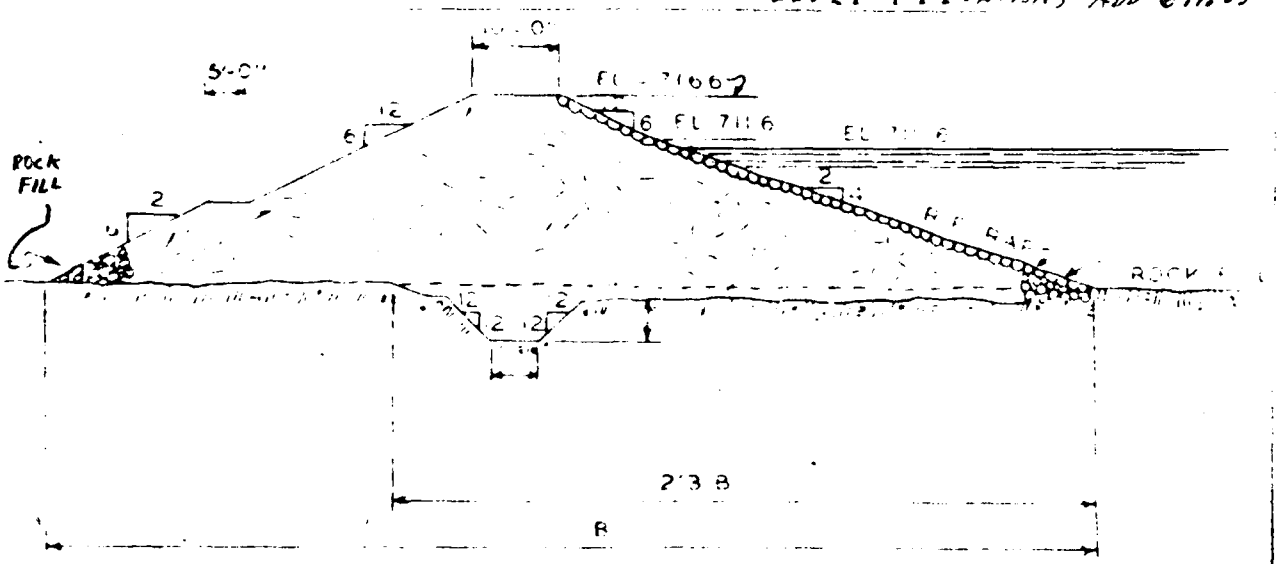


DUFRESNE-HENRY ENGINEERING CORPORATION

BY S.G. FARNSWORTH SUBJECT PELHAM DAM
DATE 5-4-79 OVER TOPPING, HYDRAULICS
SHEET NO.
JOB NO. 79-0098

HYDRAULICS FOR TOP OF DAM

{CROSS SECTION FROM G.M.P. PLANS}
TO CHANGE ELEVATION TO MEAN SEA LEVEL ELEVATIONS ADD 691.65



TYPICAL SECTION THRU DAM

SCALE 1" = 25'

$Q = C L H^{3/2}$

ELEVATION IN FEET M.S.L.	H (Ft)	L (Ft)	C	Q (CFS)	$\frac{V^2}{2g}$
1408.3 TOP OF SPILLWAY	0	695	2.78	0	0
1408.8	0.5	"	2.78	683 CFS	.1
1409.3	1.0	"	2.78	1932	.1
1410.3	2.0	"	2.78	5,465	.2
1411.3	3.0	"	2.78	10,040	.4

"C" VALUES FROM KING & BRATER, HANDBOOK OF HYDRAULICS, SIXTH EDITION, PG 5-41, TABLE 5-5 (a), LEVEL CREST

DUFRESNE-HENRY ENGINEERING CORPORATION

BY S.G. FARNSWORTH SUBJECT PEACHAM POND DAM SHEET NO. ____ OF ____
DATE 5-3-79 OUTLET WORKS - HYDRAULICS JOB NO. 09-0098

CONTINUE, OUTLET WORKS

STAGE ELEVATION (Ft)	HW (Ft)	Hw/d	Q (CFS) *	REMARKS
1400.0	17.8	4.5	240	
1401.0	18.8	4.7	250	
1402.3	20.1	5.03	260	INVERT OF SPILLWAY
1402.8	20.6	5.15	265	
1403.3	21.1	5.28	270	
1404.3	22.1	5.53	275	
1405.3	23.1	5.78	280	
1406.3	24.1	6.03	290	
1407.3	25.1	6.28	295	
1408.3	26.1	6.53	300	TOP OF DAM
1409.3	27.1	6.78	310	
1410.3	28.1	7.03	315	
1411.3	29.1	7.28	320	

INVERT @ OF 4.0 CONCRETE PIPE @ ELEV. 1382.2

* REFERENCE: HYDRAULIC CHARTS FOR THE SELECTION OF HIGHWAY CULVERTS, HYDRAULIC ENGINEERING CIRCULAR NO. 5, U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, Pg 5-22

CHECKING FOR OUTLET CONTROL AT ELEV. 1411.3

$$H = \left[1 + k_e + \frac{29 N^2 L}{R^{4/3}}\right]\frac{V^2}{2g} = \left[1 + .5 + \frac{29(.015)^2 129}{(4/4)^{4/3}}\right]\frac{(320/12.6)^2}{2g} = 23.4$$

& $R = D/4$

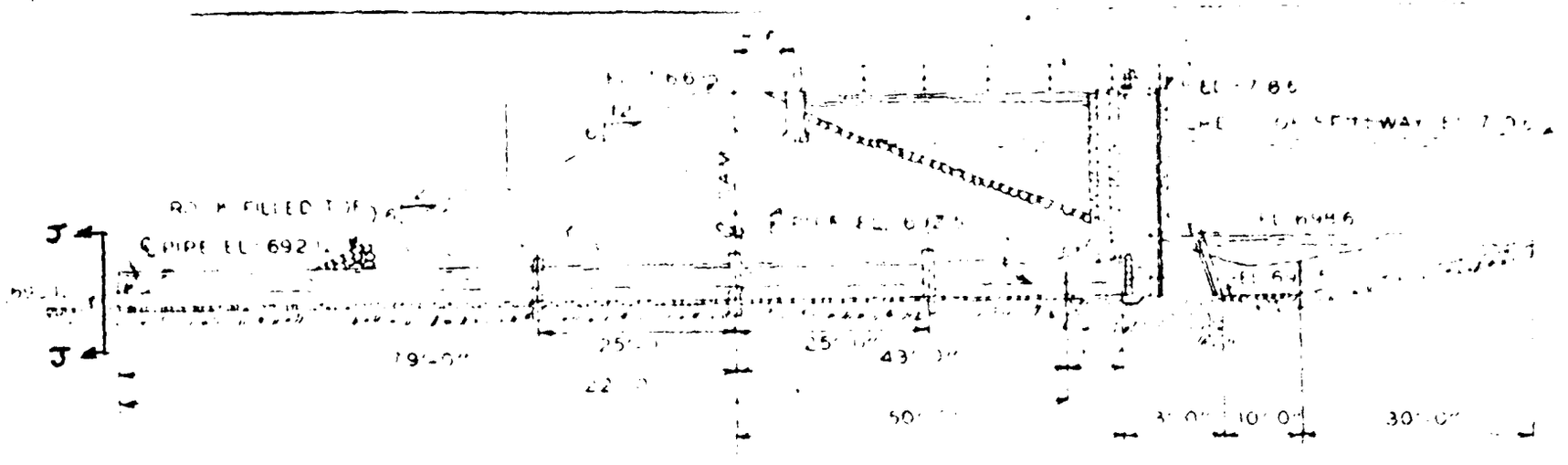
h_o = ? $\frac{d_c + D}{2} = 4.0$ ft & TAILWATER $\frac{Q_N}{b^{8/3} s^{1/2}} = \frac{320\,(0.05)}{(5.5)^{8/3}(.025)^{1/2}} = 1.07$

$D/b = 0.68$ ∴ $D = 3.7$ ft

$\frac{d_c + D}{2} > TW$, ∴ $h_o = 4.0$ ft

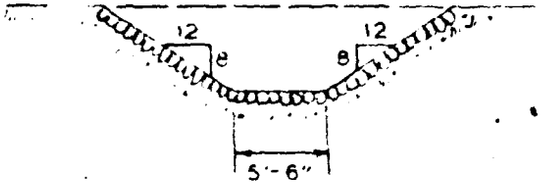
$H_{W_o} = H + h_o - L_s + \text{INLET INVERT} = 23.4 + 4.0 - 0.38 + 1382.2 = 1409.2$

$1409.2 < 1411.3$ ∴ UNDER INLET CONTROL



SECTION ON CENTER LINE OF PIPE

SCALE 1" = 20'-0"



SECTION J-J

FROM GREEN MOUNTAIN POWER PLANS AT PEACHAM POND.

THE ELEVATIONS ARE AT A LOCAL DATUM, TO CHANGE TO MEAN SEA LEVEL ELEVATIONS (M.S.L.) ADD 691.65 feet

∴ M.S.L. ELEVATIONS ARE:

INLET INVERT OF 4' PIPE	1382.2
OUTLET " " " "	1381.8
TOP OF SPILLWAY	1402.4
TOP OF EARTH DAM	1408.3

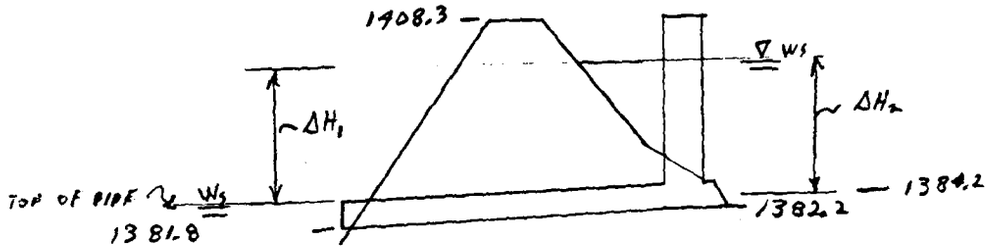
SHEET NO. _____
JOB NO. 04-0098

DUFRESNE-HENRY ENGINEERING CORPORATION

BY S. G. FARNSWORTH SUBJECT PEACHAM POND — OUTLET PIPE SHEET NO. 3
DATE 5-3-79 JOB NO. 04-0098

$Q = C A \sqrt{2g \Delta H}$

C = .66 FROM KING'S BRATER, HANDBOOK OF HYDRAULICS, TABLE 4-11, EQUATION 4-32, PAGE 4-36 OF SIXTH EDITION FOR 12" PIPE.



ΔH = ΔH_1 OR ΔH_2, WHICH ELEV IS LESS.

ASSUMING $\Delta H_2 < \Delta H_1$ @ ELEV. 1402.4, TOP OF SPILLWAY

$Q = 0.66\ (12.6\,SF) \sqrt{2g\ (1402.4 - 1384.2)} = 285$ CFS

CHECK TW, $\frac{Q n}{b^{8/3} s^{1/2}}$* $= \frac{(285\,cfs)(.05)}{(5.5)^{8/3}\ (.025)^{1/2}} = .96$, $P/b = .64$, $D = 3.5'$ (18.2')

TW = 1381.8 + 3.5 = 1385.3 > 1384.2, ∴ ΔH_1 CONTROLS

CHECKING INLET CONTROL CHARTS** FOR 285 CFS @ 285 CFS, 48" RCP, ⇒ $H_w/d = 5.9$, $H_w = 23.6$

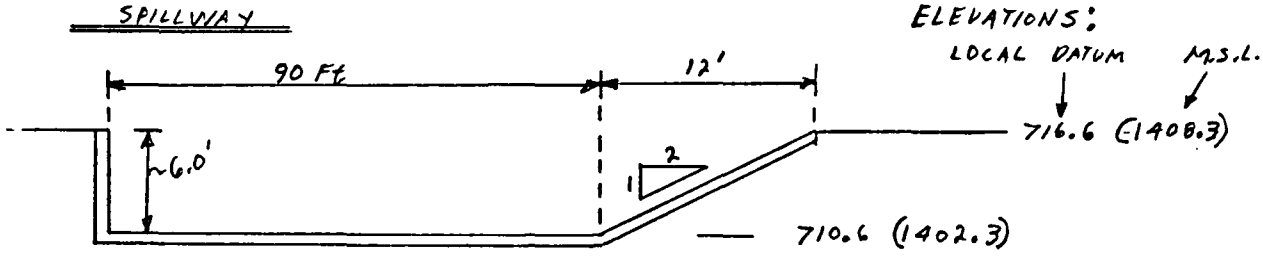
H_w = 23.6' + 1382.2 = 1405.8 > 1402.4 ∴ INLET CONTROL CHARTS CONTROL

* FROM HYDRAULIC AND EXCAVATION TABLES, ELEVENTH EDITION, UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION, PAGE 97

** FROM CIRCULAR NO. 5 OF HYDRAULIC ENGINEERING, U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, Pg 5-22.

DUFRESNE-HENRY ENGINEERING CORPORATION

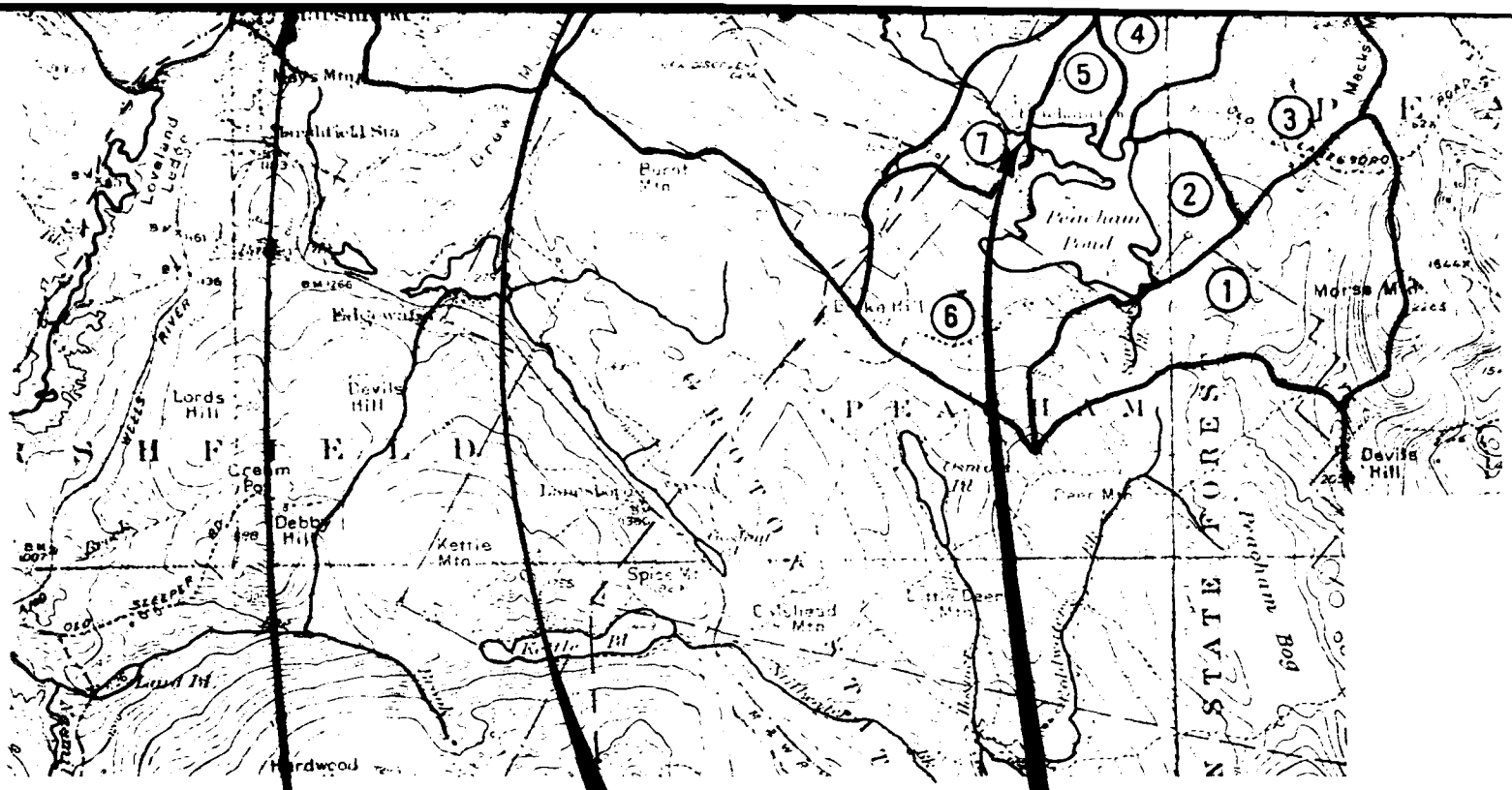
BY S.G. FARNSWORTH SUBJECT PEACHHAM POND DAM SHEET NO. 2
DATE 5-3-79 SPILLWAY HYDRAULICS JOB NO. 09-0098



$Q = C L_{AVE} H^{3/2}$ VALUES OF C FROM

ELEVATION (FEET M.S.L.)	H	L	L_{AVE}	C *	Q (CFS)	A (SF)	V (FPS)	$\frac{V^2}{2g}$ (FT)
1402.3	0	90	90	-	0	0	0	0
1402.8	.5	91	90.5	3.01	96	45	2.1	.1
1403.3	1.0	92	91	3.01	274	91	3.0	.1
1404.3	2.0	94	92	3.01	783	184	4.3	.3
1405.3	3.0	96	93	3.01	1455	279	5.2	.4
1406.3	4.0	98	94	3.01	2263	376	6.0	.56
1407.3	5.0	100	95	3.00	3184	475	6.7	.7
1408.3	6.0	102	96	2.98	4205	576	7.3	.83
1408.8	6.5	102	96.8	2.97	4764	629	7.6	.89
1409.3	7.0	102	97.3	2.97	5352	681	7.9	.96
1410.3	7.5	102	97.8	2.96	5946	734	8.1	1.0
1411.3	8.5	102	98.1	2.96	7172	839	8.6	1.2

* VALUES OF C FROM KING & BRATER, HANDBOOK OF HYDRAULICS, SIXTH EDITION, TABLE 5-5(a), CREST IS SLOPING



SOURCE OF MAP:

U.S. GEOLOGICAL SURVEY
PLAINFIELD, VT. &
ST. JOHNSBURY, VT.-N.H.
QUADRANGLES
15 MIN. SERIES
1:62500, 1953 & 1949

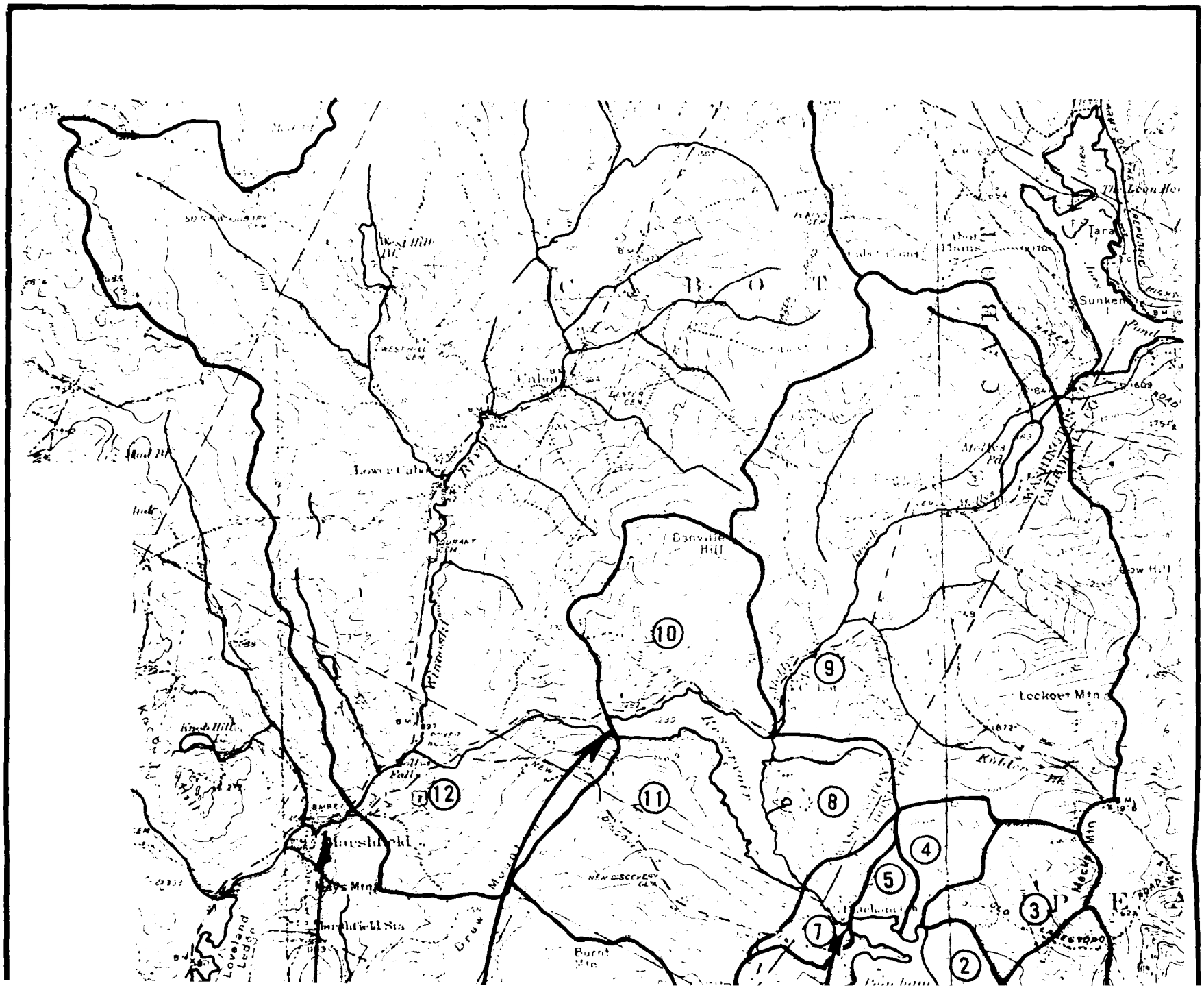
LEGEND
(5) SUB DRAINAGE AREAS FOR HEC I

DUFRESNE-HENRY ENGINEERING CORP. ARCHITECT-ENGINEER	U.S. ARMY ENGINEER DIV. NEW ENGLAND CORPS OF ENGINEERS WALTHAM, MASS.

NATIONAL PROGRAM OF INSPECTION OF NON-FED. DAMS

DRAINAGE AREA MAP
PEACHAM POND DAM

CLIENT NO.	04-0098	SCALE	1"=1 MILE
ENGINEER	S.G.F.	DATE	


Lower Cabot
Danville Hill
Lockout Mtn
Mays Mtn
Burnt Mtn
Loveland Ledge
Kinsley Hill
Whitewater River
Kubler Rd
Mack Mtn
Sunken Pond
Tara
12
11
10
9
8
7
5
4
3
2

APPENDIX D

HYDROLOGIC AND HYDRAULIC COMPUTATIONS

CONTENTS

DUFRESNE-HENRY ENGINEERING CORPORATION

BY SHERWARD G. FARNSWORTH . SUBJECT PEACHAM POND DAM SHEET NO. ____ OF ____

DATE 5-19-79 STAGE – STORAGE & DISCHARGE JOB NO. 04-0098

STAGE - STORAGE TABLE

STAGE ELEVATION (FEET)	ΔH	SURFACE AREA ACRES	STORAGE		REMARKS
			ACRE-FT	SUMMATION (ACRE-FEET)	
1386.9	5.0	0.1	0	0	
1391.9	4.0	8.1	20	20	
1394.0	1.0	29.5 / 265.5 *	40	60	
1396.9	3.1	316	843	903	
1400.0	1.9	345	1025	1928	
1401.9	.4	369.3	679	2606	
1402.3	2.0	372	148	2755	INVERT OF SPILLWAY
1404.3	1.0	385	757	3512	
1405.3	1.7	390	388	3899	
1407.0	1.3	400	672	4571	
1408.3	0.5	408	525	5096	TOP OF DAM
1408.8	0.5	415	206	5302	
1409.3	1.0	417	208	5510	
1410.3	1.0	422	420	5929	
1411.3		427	424	6354	

* THE MAIN POND IS PERCHED STORAGE AT APPROXIMATE ELEVATION 1394'. {SEE LAST SHEET}

STAGE - DISCHARGE SUMMARY TABLE

STAGE ELEV. (FT)	SPILLWAY	OUTLET WORKS	DAM OVER TOPPING	TOTAL	REMARKS
1402.3	0 CFS	260 CFS	–	260 CFS	INVERT OF SPILLWAY
1402.8	96	265	–	361	
1403.3	274	270	–	544	
1404.3	783	275	–	1058	
1405.3	1455	280	–	1735	
1406.3	2263	290	–	2553	
1407.3	3184	295	–	3479	
1408.3	4205	300	0 CFS	4505	TOP OF DAM
1408.8	4764	305	683	5752	
1409.3	5352	310	1932	7594	
1410.3	5946	315	5,465	11,726	
1411.3	7172	320	10,040	17,532	

DUFRESNE-HENRY ENGINEERING CORPORATION

BY S.G. FARNSWORTH SUBJECT PEACHAM POND DAM HAZARD CLASSIFICATION SHEET NO. ____ OF ____
DATE 7-31-79 JOB NO. 09-0097

PEACHAM POND HAZARD CLASSIFICATION

FLOOD WAVE @ PEACHAM POND DAM:

(WITH WATER AT TOP OF DAM)

$$Q_{P_1} = \tfrac{8}{27} W_0 \sqrt{g}\, Y_0^{3/2}$$

where Y_0 = HEIGHT OF DAM (22 ft)
W_0 = 40% OF LENGTH OF DAM AT MID HEIGHT (460 ft)

$$Q_{P_1} = \tfrac{8}{27} (460\text{ft}) \sqrt{g}\, (22\text{ft})^{3/2} \simeq 79800 \text{ CFS}$$

ASSUMING ½ PMF @ MARSHFIELD DAM #6 (MOLLY'S FALL)

CALCULATING HEIGHT OF FLOODWAVE OVER MARSHFIELD DAM #6:

ACCORDING TO HEC-1 OUTPUT, @ ½ PMF, WATER SURFACE IS AT TOP OF DAM, ELEV. 1239.2, AND DISCHARGE IS 7000 CFS.

TRIAL #1 — ASSUMING 50,000 CFS OVER DAM: ∴ @ ELEV 1245 ⇒ STORAGE = 16,435 Ac-ft

$$Q_{P_2}\,(\text{TRIAL}) = Q_{P_1}\left(1 - \frac{\text{VOL}}{\text{STORAGE}}\right) = 79800 \text{ CFS}\left(1 - \frac{16{,}435 - 13{,}526 \text{ Ac-ft}}{5096 \text{ Ac-ft}}\right)$$

Q_{P_2} = 34,247 ± CFS VS 50,000 CFS

TRIAL #2 — ASSUMING 35,000 CFS OVER DAM: @ ELEV. 1243.6 ⇒ 15,800 Ac-ft

$$Q_{P_2} = 79{,}800 \text{ CFS}\left(1 - \frac{15{,}800 \text{ Ac-ft} - 13{,}526 \text{ Ac-ft}}{5096 \text{ Ac-ft}}\right)$$

Q_{P_2} = 45,760 ± CFS VS 35,000 CFS

TRIAL #3 — ASSUMING 40,000 CFS OVER DAM:

@ ELEV. 1244.0 ⇒, STORAGE ⇒ 15,900 Ac-ft

$$Q_{P_2} = 79{,}800 \text{ CFS}\left(1 - \frac{15{,}927 - 13{,}526}{5096 \text{ Ac-ft}}\right) \simeq 42{,}300 \text{ CFS}$$

TRIAL #4 — ASSUMING 41,000 CFS OVER DAM:

@ ELEV 1244.2 ⇒ STORAGE = 16537 Ac-ft

$$Q_{P_2} = 79{,}800 \text{ CFS}\left(1 - \frac{15973 - 13{,}526}{5096 \text{ Ac-ft}}\right) = 41{,}482_{\text{CFS}} \text{ VS } 41{,}000 \text{ CFS}$$

USING

DUFRESNE-HENRY ENGINEERING CORPORATION

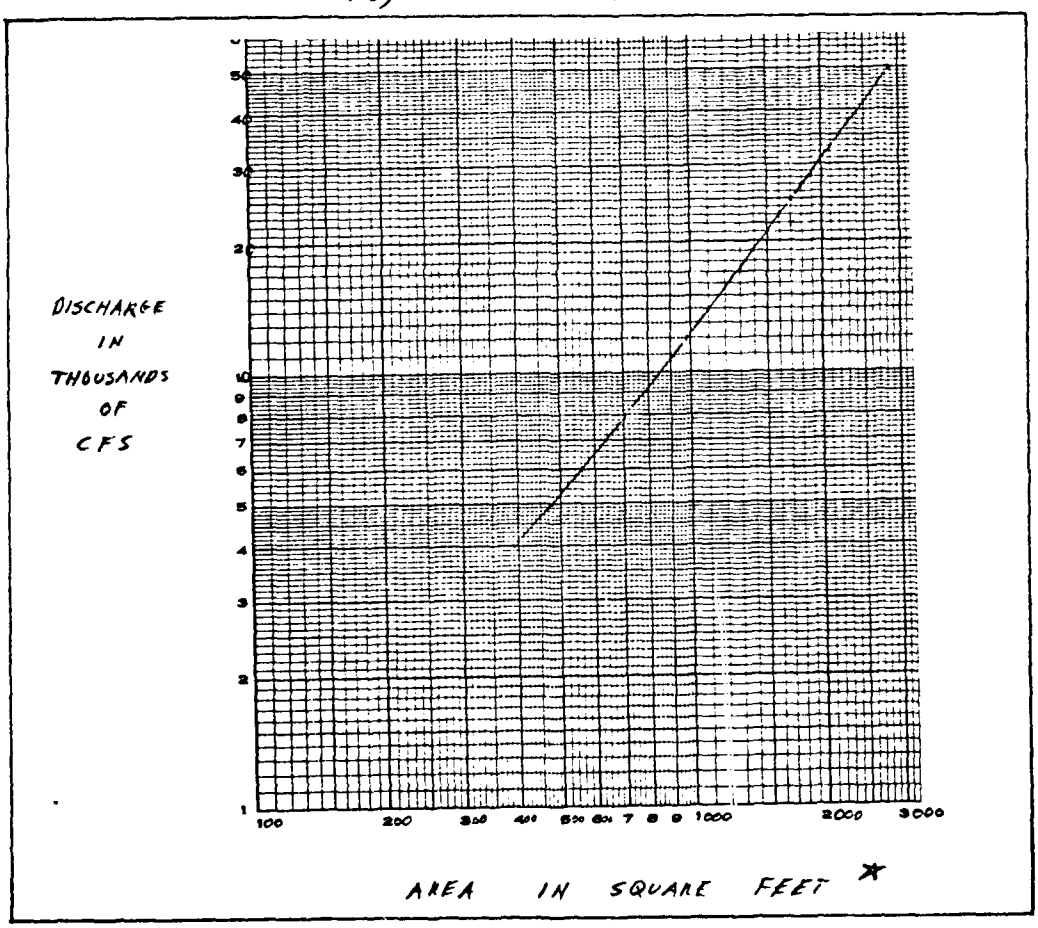
BY SHERWARD G. FARNSWORTH SUBJECT PEAKHAM POND DAM I SHEET NO. ____ OF ____

DATE 7-31-79 HAZARD CLASSIFICATION JOB NO. 79-0098

COMBINED OUT FLOW AT MARSHFIELD #6 = 48,200 CFS
WHERE THE FIRST 7000 CFS IS SPILLWAY DISCHARGE
FROM 0.5 PMF.

AREA DOWN STREAM OF MARSHFIELD DAM I

48,200 CFS ⇒ AREA =



AREAS FOR 48,200 CFS ⇒ 2,800 SQ. FT
7,000 CFS ⇒ 620 SQ. FT
FLOOD WALE AREA ⇒ 2180 SQ. FT.

* AREAS FROM HEC 2 COMPUTER OUTPUT AT SECTION #1.

FLOOD WAVE AT MARSHFIELD VILLAGE WITH ½ PMF OCCUPING

½ PMF @ MARSHFIELD VILLAGE FROM HEC-1 OUTPUT IS 28,000 cfs
CORBES PONDING AREA = 5600 SQ. Ft @ ELEV. 851
(FROM NEXT PAGE)

TRIAL #1 ASSUMING 15% OF FLOOD WAVE FROM MARSHFIELD DAM IS STORED IN VALLEY.

$Q = 85\% (41{,}200 \text{ cfs}) \cong 35{,}000 \text{ cfs}$

AREA @ MARSHFIELD: 35,000 + 28,000 = 63,000 cfs

AREA = 9,700 SQ. Ft (FROM NEXT PAGE)

$\text{AREA}_{\text{WAVE}} = 9700 \text{ SF} - 5600 \text{ SF} = 4100 \text{ SF}$

$\text{VOL} = (4100 \text{ SF} + 2180 \text{ SF})/2 * 12{,}150 \text{ Ft} \div 43{,}560 \text{ SF/Ac} = 876 \text{ Ac-Ft}$

$$Q_{P_2} = Q_{P_1}\left(1 - \frac{V_{OL}}{S}\right) = 41{,}200 \text{ cfs}\left(1 - \frac{876 \text{ Ac-Ft}}{5096 \text{ Ac-Ft}}\right)$$

$Q_{P_2} = 34{,}118 \text{ cfs}$ VS 35,000 cfs % ERROR ⇒ 3%

TRIAL #2 ASSUMING 34,300 CFS FOR FLOOD WAVE
AREA IN MARSHFIELD FOR (34,300 + 28,000 cfs) 62,300 cfs
EQUALS 9650 SQ. Ft (FROM NEXT PAGE)

AREA OF WAVE = 9650 SQ. Ft - 5600 SF = 4050 SF
VOL = (4050 + 2180 SF)/2 * 12,150 Ft ÷ 43,560 SF/Ac = 869 Ac-Ft

$$Q_{P_2} = 41{,}200 \text{ cfs}\left(1 - \frac{869 \text{ Ac-Ft}}{5096 \text{ Ac-Ft}}\right) = 34175 \text{ cfs VS } 34{,}300 \text{ cfs}$$

FLOOD WAVE ⇒ USING 34,200 cfs, TOTAL FLOW ∴ = 62,200 cfs

DURING A ½ PMF THE WATER SURFACE ELEVATION WOULD BE APPROXIMATELY AT ELEVATION 851 FEET OR FIRST FLOOR ELEVATIONS ±. WITH THE ADDITION OF THE PEACHAM FLOOD WAVE THE WATER SURFACE WOULD SUDDENLY RISE TO ELEVATION 856 OR AN INCREASE IN 5 FEET.

DUFRESNE-HENRY ENGINEERING CORPORATION

BY S G FARNSWORTH SUBJECT PEACHAM POND DAM SHEET NO. ____ OF ____
DATE ____ DAM BREAK EFFECTS JOB NO. 04-0698

MARSHFIELD DAM #6 MOLLYS FALL DAM

ASSUMING THAT WATER SURFACE IS AT THE TOP OF STOP LOGS, NORMAL LEVEL. ELEVATION 1237.9

BREAK DISCHARGE AT PEACHAM FROM SHEET #15
79,000 CFS.

FIND MAXIMUM DISCHARGE AND WATER SURFACE:

TRIAL #1

ASSUMING WATER SURFACE JUST REACH TOP OF DAM, ELEV. 1239.2

TOP OF DAM
STORAGE = 13,526 AC-FT @ TOP OF DAM, & 8291 AC-FT AT TOP OF STOP LOGS.
DISCHARGE@ AT TOP OF DAM = 2758

$$Q_{p_2} = Q_{p_1}\left[1 - \frac{\text{VOL. STORAGE}}{}\right] = 79{,}800\left[1 - \frac{13{,}526 - 8291}{5096}\right] = 79{,}800\left[1 - 1.027\right]$$

GREATER THEN ONE ∴ DOES NOT REACH TOP OF DAM.

TRIAL #2

ELEV. 1239.2 - 0.5 = 1238.7

STORAGE ⇒ 13315 AC-FT
& DISCHARGE ⇒ 2650 CFS

13315 - 8291 = 5024 AC-FT VS 5096 ≈

∴ MAXIMUM WATER SURFACE IS 1238.8 ± WHICH WITH FLASH BOARDS UP = MAXIMUM DISCHARGE OF 2700 CFS AND STOP LOGS AND FLASH BOARDS DOWN EQUALS MAXIMUM DISCHARGE OF 6400 CFS.

VILLAGE OF MARSHFIELD, VS. ROUTE 2 BRIDGE

45 FOOT BY 13 FOOT CONCRETE T-BEAM } FROM VERMONT AGENCY OF TRANSPORTATION ROUTE LOGS.
BUILT IN 1927, WATERWAY 585 SQ. FT. }

USING U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION HYDRAULIC ENGINEERING CIRCULAR NO. 5,
WITH y = 13 FEET, Q/B = 6400 CFS/45 FT = 142, FOR A 45° WING FLARE ENTRANCE, H_w/D = 1.04 ∴ H_w = 13.5 FEET
DISCHARGE WOULD NOT FLOOD OUT ANY HOMES OR OVER TOP U.S. ROUTE 2 IN MARSHFIELD

DUFRESNE-HENRY ENGINEERING CORPORATION

BY S.G. FARNSWORTH DATE 5-29-79

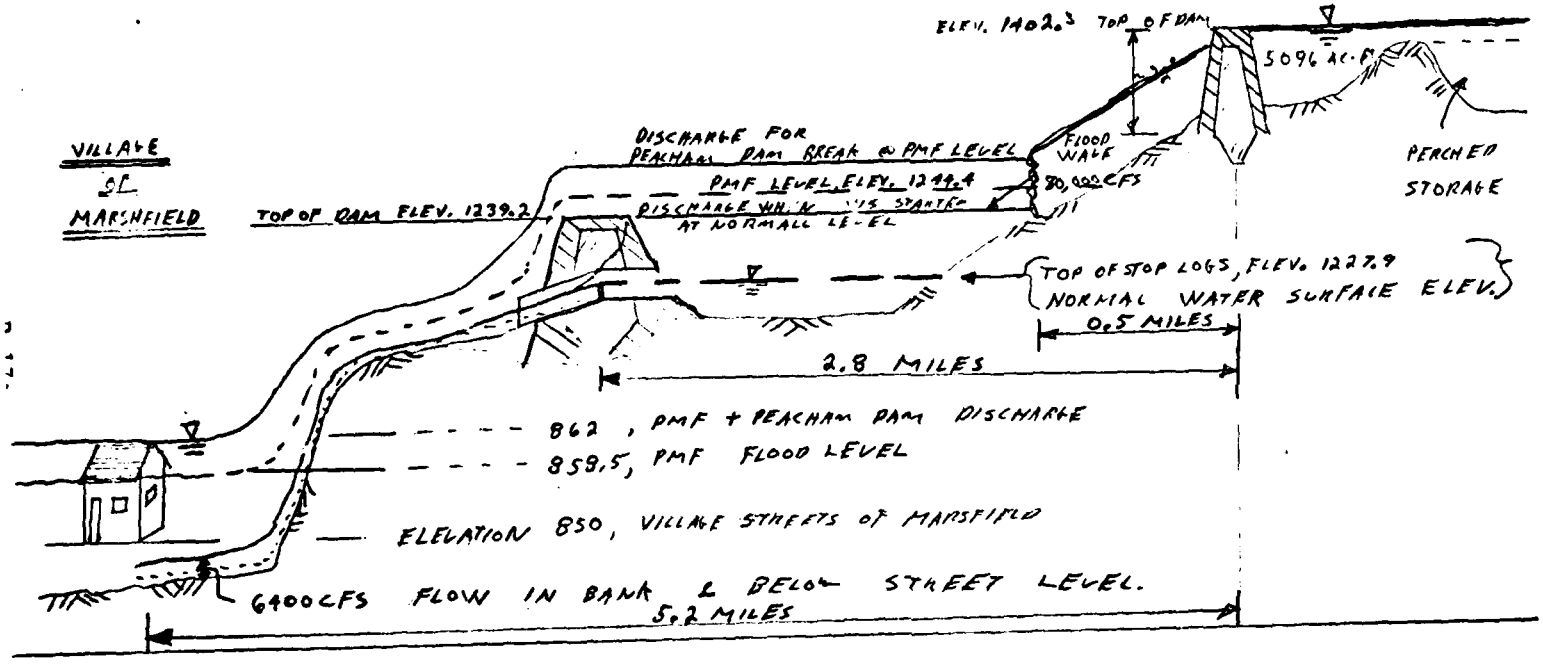
SUBJECT PEACHAM POND DAM HAZARD CLASSIFICATION DAM BREAK PROFILE

SHEET NO. 14 OF

JOB NO. 04-0078

MOLLYS FALL DAM
MARSHFIELD #6

PEACHAM POND DAM
LENGTH OF DAM 1150



——— PEACHAM POND PROFILE DISCHARGE WHEN STARTING WATER SURFACE ELEVATION IN MOLLYS FALL DAM IS AT NORMAL LEVEL, TOP OF STOP LOGS

——— PEACHAM POND DISCHARGE PROFILE WHEN STARTING WATER SURFACE ELEVATIONS FOR MOLLYS FALL DAM AND VILLAGE MARSHFIELD ARE AT PMF LEVEL.

_ = = STARTING WATER SURFACE PROFILES.

DUFRESNE-HENRY ENGINEERING CORPORATION

BY S.G. FARNSWORTH SUBJECT PEACHAM POND DAM SHEET NO. 15 OF
DATE 5-21-79 HAZARD CLASSIFICATION JOB NO. 04-0097

PEACHAM POND HAZARD CLASSIFICATION

BREAK DISCHARGE OF PEACHAM POND DAM WHEN WATER IS AT TOP OF DAM:

$$Q_{P_1} = \frac{8}{27} W_b \sqrt{g} \, y_b^{3/2}$$

$W_b = 40\% (1150 ft) = 460 ft$

$y_b = 22 ft$

$$Q_{P_1} = \frac{8}{27} (460 ft) \sqrt{g} \, (22)^{1.5} = 79,810 cfs$$

CALCULATING HEIGHT OF FLOODWAVE OVER MARSHFIELD DAM #6, MOLLYS FALL RESERVOIR.

ASSUMING FULL PMF OVER MOLLYS FALL, ELEV. 1244.4
PMF DISCHARGE @ MOLLYS DAM ⇒ 42,900 cfs.

TRIAL #1 ASSUMING ADDITIONAL DISCHARGE OF 70,000 cfs

∴ TOTAL DISCHARGE = 112,900 cfs @ MARSHFIELD #6
FROM STAGE-DISCHARGE CURVE (FLASH BOARDS UP)
DISCHARGE ELEV. 1249.5 AREA 525 AC
1244.4 " 510 AC
VOLUME $\frac{525+510}{2} * 5.1 ft = 2639$ AC-ft

$$Q_{P_2 (TRIAL)} = Q_{P_1} \left(1 - \frac{V_1}{S}\right) = (79,810 cfs)\left(1 - \frac{2639}{5096}\right) = 38450 cfs$$

70,000 > 38,450 cfs

TRIAL #2 ASSUMING Q_{P_2} OF 38,450 cfs
∴ TOTAL DISCHARGE = 42,900 + 38,450 = 81,350 cfs
DISCHARGE ELEV 1247.6 AREA 520 AC
$\frac{1244.4}{2.2}$ " 510 AC
VOLUME = 515 AC * 2.2 ft = 1133 AC-ft

$$Q_{P_2 TRIAL} = (79810 cfs)\left(1 - \frac{1133}{5096}\right) = 62,066 cfs$$

DUFRESNE-HENRY ENGINEERING CORPORATION

BY S.G. FARNSWORTH SUBJECT PEACHAM POND SHEET NO. 16 OF
DATE 5-22-79 HAZARD CLASSIFICATION JOB NO. 04-0097

TRIAL #3 ASSUMING 52,000 CFS

TOTAL DISCHARGE 42,900 + 52000 = 94,900 CFS

ELEV. DISCHARGE ⇒ 1248.6 522 AC
1244.4 510 AC
4.2 516 AC * 4.4 = 2167 AC-FT

Q_{P_2} (TRIAL) = (79,810 CFS) $\left(1 - \frac{2167}{5096}\right)$ = 45,870 CFS < 52,000 CFS

TRIAL #4 ASSUMING 48,900 CFS

TOTAL DISCHARGE 43,900 + 42,900 = 91,800 CFS

ELEV " ⇒ 1248.4 521 AC
1244.4 510 AC
4.0 515.5 AC * 4.0 = 2062 AC-FT

Q_{P_2} (TRIAL) = (79,810 CFS) $\left(1 - \frac{2062}{5096}\right)$ = 47,516 CFS < 48900 CFS

TRIAL #5 ASSUMING 48,200 CFS

TOTAL DISCHARGE OVER MARSHFIELD #6 48,200 + 42,900 = 91100 CFS

ELEV. " 1248.3 520
1244.4 510
3.9 515 AC * 3.9 = 2008 AC-FT

Q_{P_2} (TRIAL) = (79,810) $\left(1 - \frac{2008}{5096}\right)$ = 48,360 CFS ≅ 48,200

SUMMARY AT MOLLYS FALL DAM } USING 48,300 CFS AS ADDITIONAL FLOW OVER TOP OF MARSHFIELD #6 ⇒ TOTAL DISCHARGE IS 91,180 CFS, OR AN INCREASE IN ELEVATION OF 4.0 FEET TO ELEVATION 859.

HAZARD TO VILLAGE OF MARSHFIELD DUE TO INCREASE WATERS FROM PEACHAM POND DAM BREAK

BASED ON THE COMPUTER OUTPUT (HEC 1), THE PEAK PMF DISCHARGE IN MARSHFIELD VILLAGE IS 80,300 CFS. BASED ON STAGE-DISCHARGE CURVE FOR MARSHFIELD VILLAGE (HEC 2 COMPUTER RUN) THE WATER SURFACE ELEVATION WOULD BE 859 FEET M.S.L. AND WOULD CAUSE THE LOSS OF MANY HOMES AND BUSSINESSES. THE FOLLOWING COMPUTATIONS ARE TO DETERMINE APPROXIMATELY THE ADDITIONAL DISCHARGE IN MARSHFIELD VILLAGE AND INCREASE IN WATER SURFACE WHICH COULD LEAD TO ADDTIONAL LOSS OF LIFE AND THEREFORE DETERMINE THE HAZARD

DUFRESNE-HENRY ENGINEERING CORPORATION

BY S.G. FARNSWORTH SUBJECT PEACHAM POND DAM SHEET NO. 17 OF ___
DATE 5-24-79 HAZARD CLASSIFICATION JOB NO. ___

DISCHARGE IN VILLAGE OF MARSHFIELD CAUSE BY PEACHAM DAM BREAK WHEN VILLAGE IS UNDER FULL PMF DISCHARGE & MARSHFIELD DAM #6 (MOLLYS FALLS) IS AT PMF LEVEL.

FROM SHEET #3 FLOODWAVE DISCHARGE TOTAL OVER MOLLYS FALL DAM IS 91,200 CFS OF WHICH 48,300 CFS IS PART OF FLOODWAVE FROM PEACHAM DAM.

TRIAL #1

BASED ON MARSHFIELD #6 DAM BREAK, ANALYSIS ASSUMING 85% STORAGE OF INCREASED FLOOD WAVE BETWEEN MARSHFIELD #6 DAM & MARSHFIELD VILLAGE

AREA AT SECTION #1, 600 FT [illegible] STREAM OF MOLLYS FALL DAM FOR BETWEEN 91,200 CFS & 48,300 CFS:

AREA FOR	91,200 CFS	⇒	4485 SF
TEST FLOOD → "	"	- 42,900 CFS	⇒ - 2525 SF
DAM BREAK ⇒	48,300 CFS	⇒	1960 SF

ASSUMING 85% OF $48,300_{CFS}$ ⇒ 41,055 CFS

TOTAL @ @ MARSHFIELD VILLAGE 41,055 CFS + 80,300 CFS (PMF) = 121,355 CFS

∴ AREA @ VILLAGE, FOR 121,355 CFS = 14,800 SF } FIG #3
" @ " " 80,300 CFS = 11,900 SF
2,900 SF

REACH LENGTH 12,150 Ft
VOLUME = [(2,900 SF + 1960 SF)/2] * 12,150 ≈ Ac. 43,560 SF = 678 Ac-Ft

$Q_{P_2\,(TRIAL)}$ (41,055 CFS) = 48,300 CFS $\left(1 - \frac{678\ \text{AC-FT}}{5096}\right)$ = 41,880 CFS

41,055 ≃ 41,880 CFS (2% ERROR), TAKING AVERAGE ≅ 41,500 CFS

∴ TOTAL

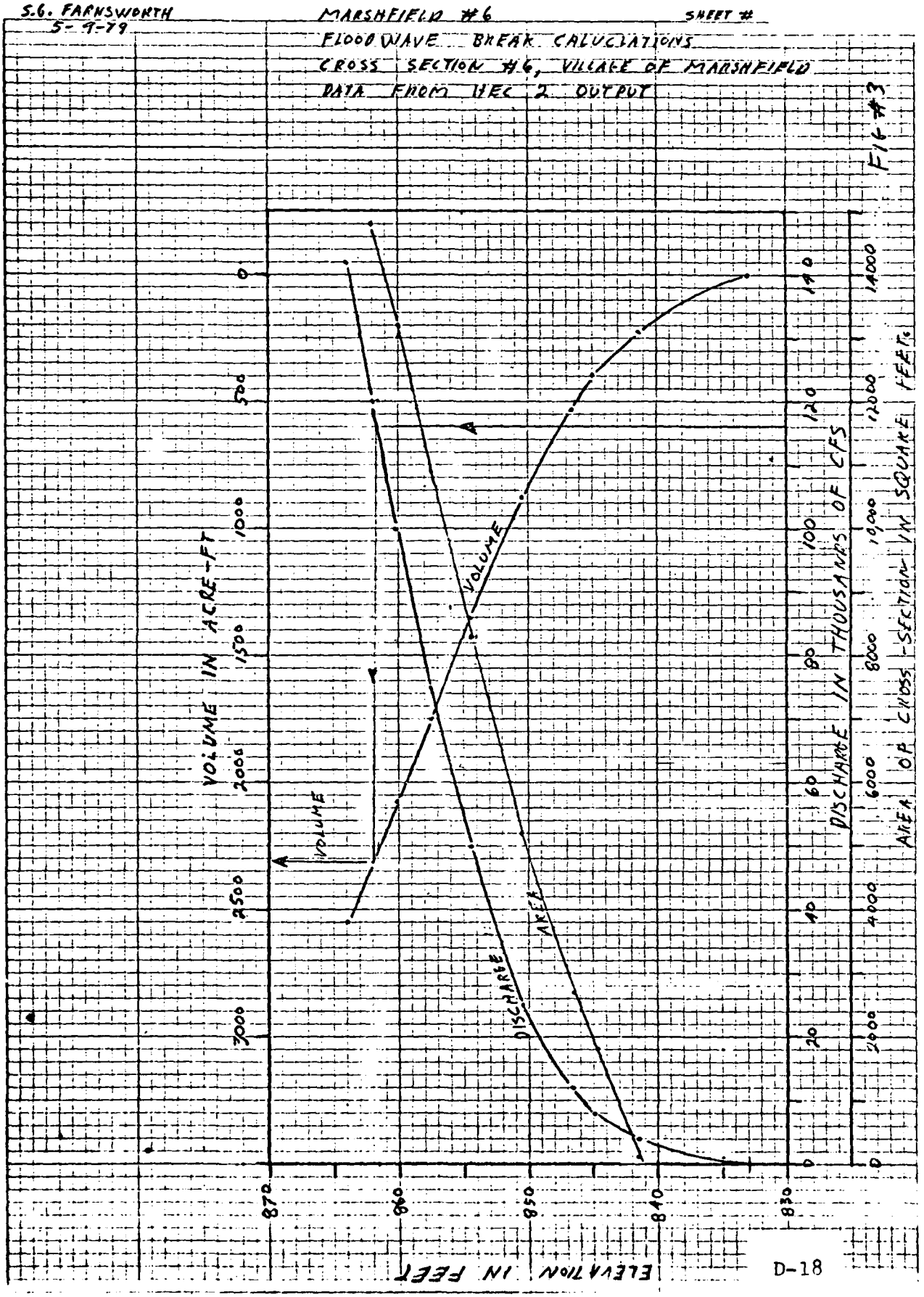
∴ TOTAL DISCHARGE @ MARSHFIELD VILLAGE WOULD BE 121,800 CFS OR AN INCREASE IN WATER [illegible] DUE TO PEACHAM POND DAM BREAK TO 862 FEET OR 3.7 FEET ±.

S.G. FARNSWORTH
5-9-79

MARSHFIELD #6 SHEET #

FLOOD WAVE BREAK CALCULATIONS
CROSS SECTION #6, VILLAGE OF MARSHFIELD
DATA FROM HEC 2 OUTPUT

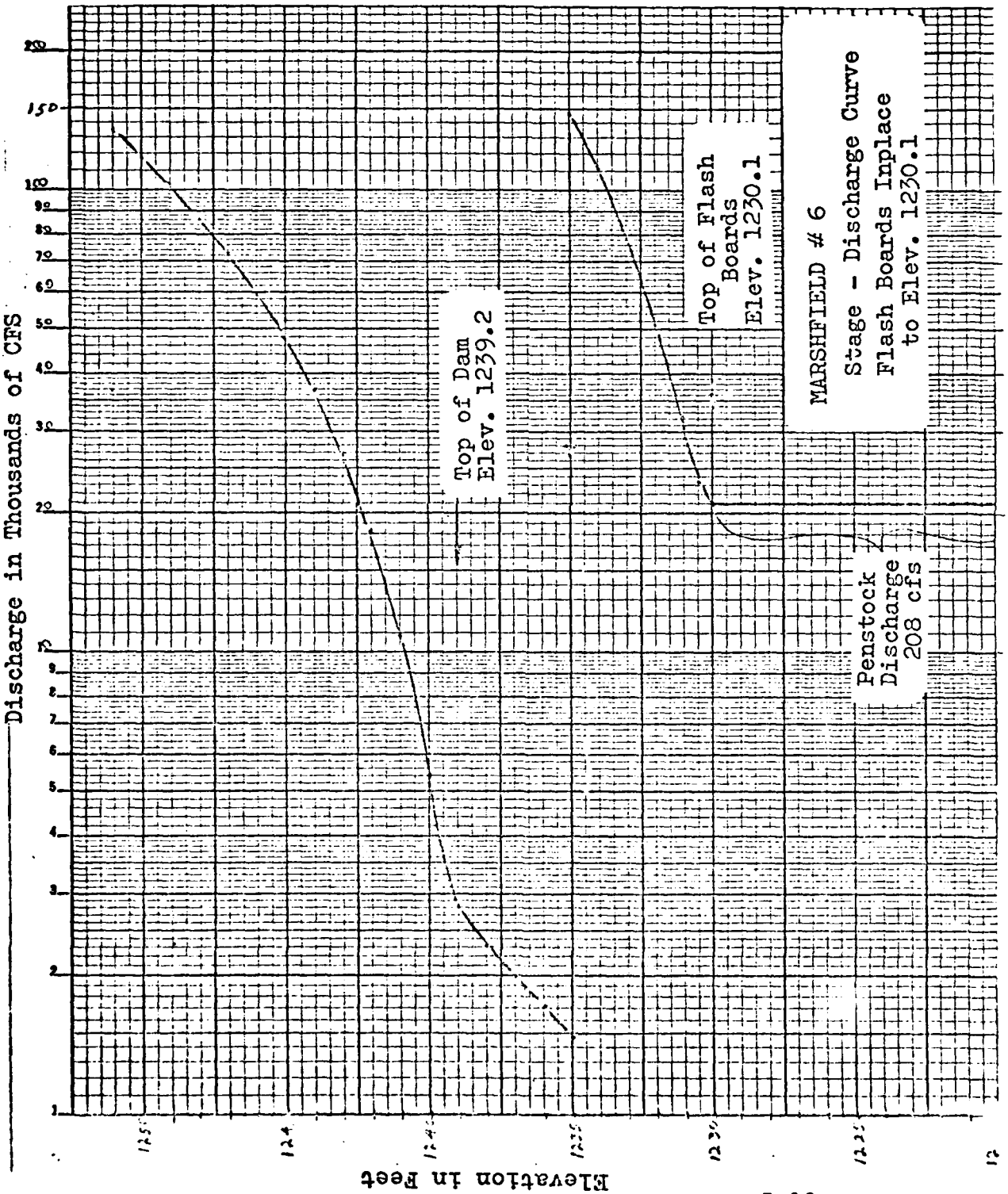
FIG #3

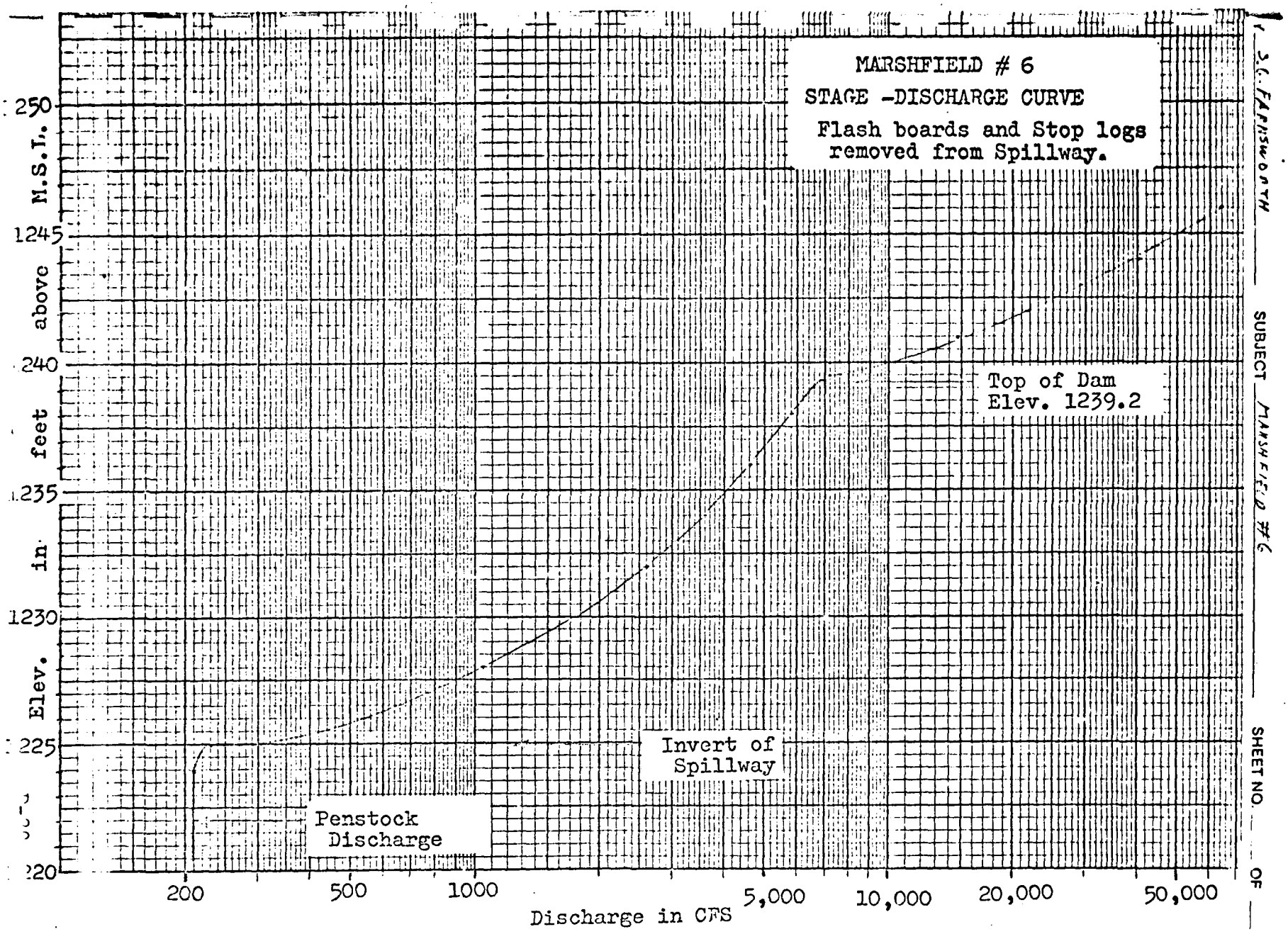


DUFRESNE-HENRY ENGINEERING CORPORATION

BY S.G. FARNSWORTH SUBJECT MARSHFIELD #6 SHEET NO. ____ OF ____

DATE 5-22-79 JOB NO. ____

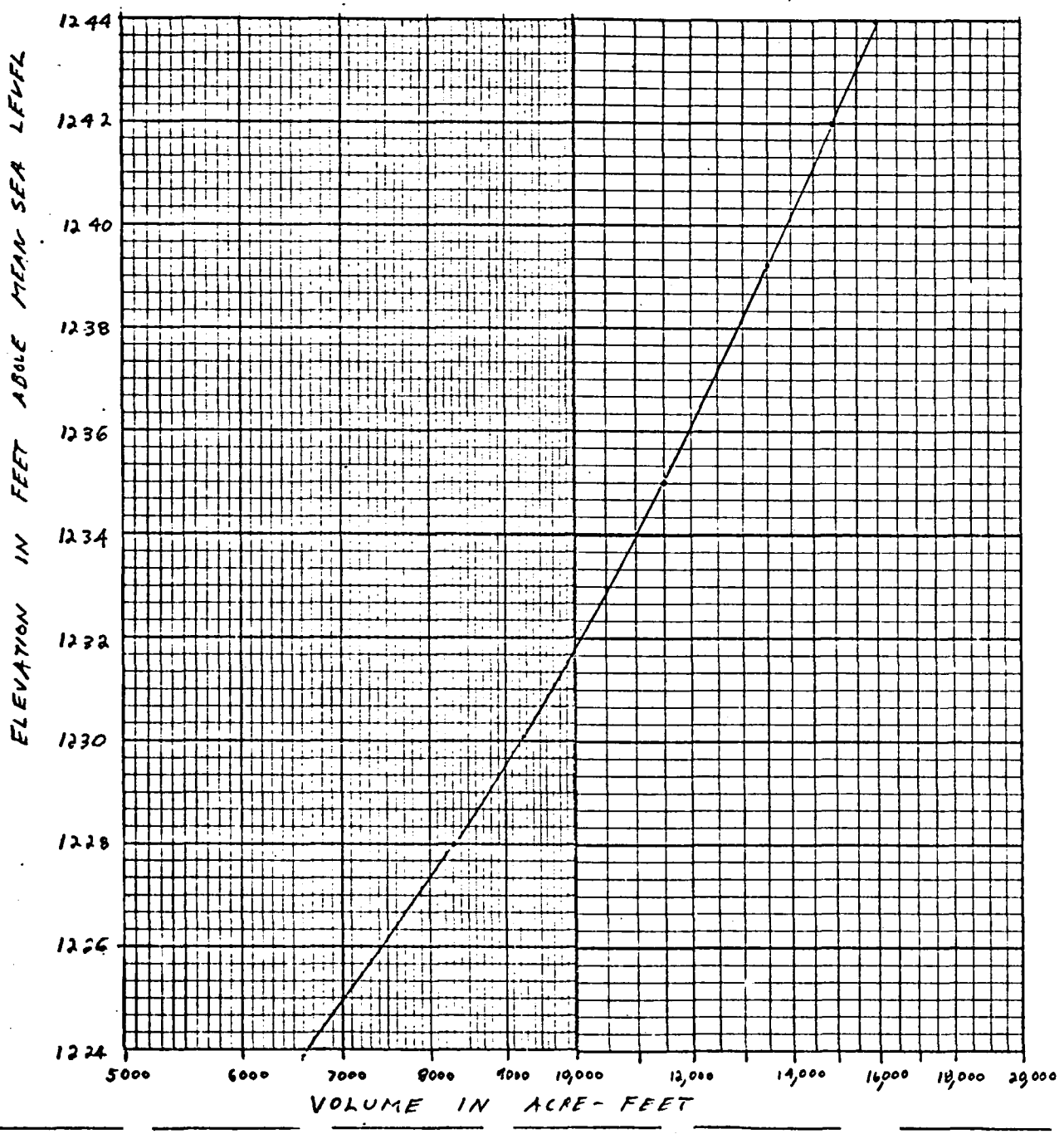




BY S.C. FARNSWORTH SUBJECT MARSHFIELD #6 SHEET NO. OF

DUFRESNE-HENRY ENGINEERING CORPORATION

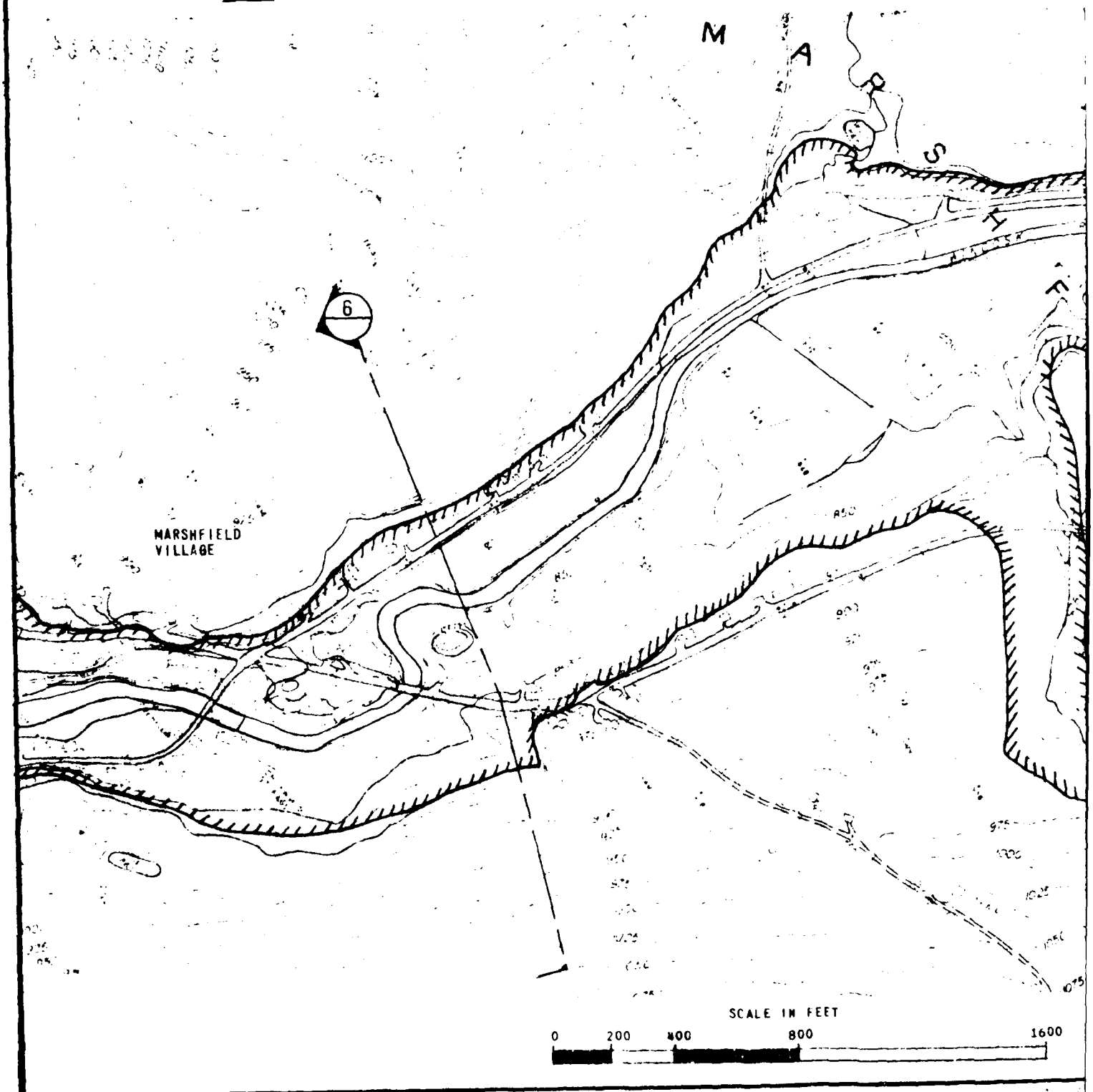
Y S. G. FARNSWORTH SUBJECT MANSFIELD #6 SHEET NO. ____ OF ____
ATE 5-15-79 STAGE - STORAGE CURVE JOB NO. 09-0097



SOURCE:
COMPILED BY PHOTOGRAMETRIC METHODS
MOORE SURVEY & MAPPING CORP
CONTROL BY VT. GEODETIC SURVEY, U.S.C. & G.S. & M.S. & M. CORP.

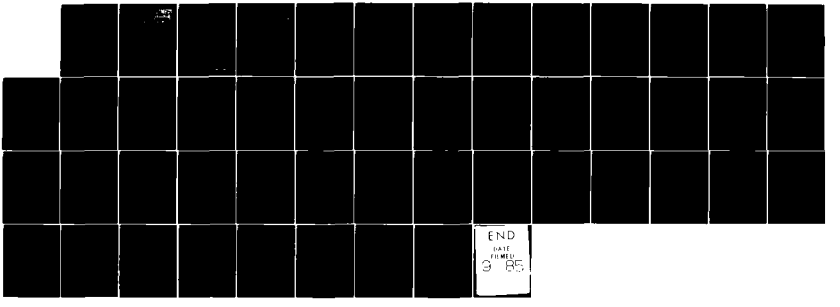
CONTOUR INTERVAL 5'
DATUM: MEAN SEA LEVEL 1929
2000' GRID BASED ON VERMONT STATE PLANE COORDINA
TRANSVERS MERCATOR PROJECTION

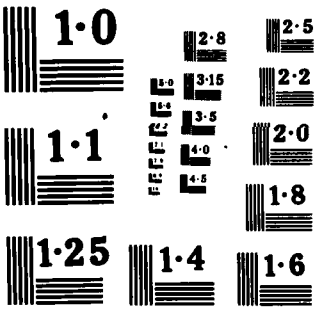
DAM FAILURE FLOOD WAVE LIMITS



AD A157 631 NATIONAL PROGRAM FOR INSPECTION OF NON-FEDERAL DAMS PEACHAM POND DAM (VT..(U) CORPS OF ENGINEERS WALTHAM MA NEW ENGLAND DIV MAR 80 2/2

UNCLASSIFIED F/G 13/13 NL




1·0
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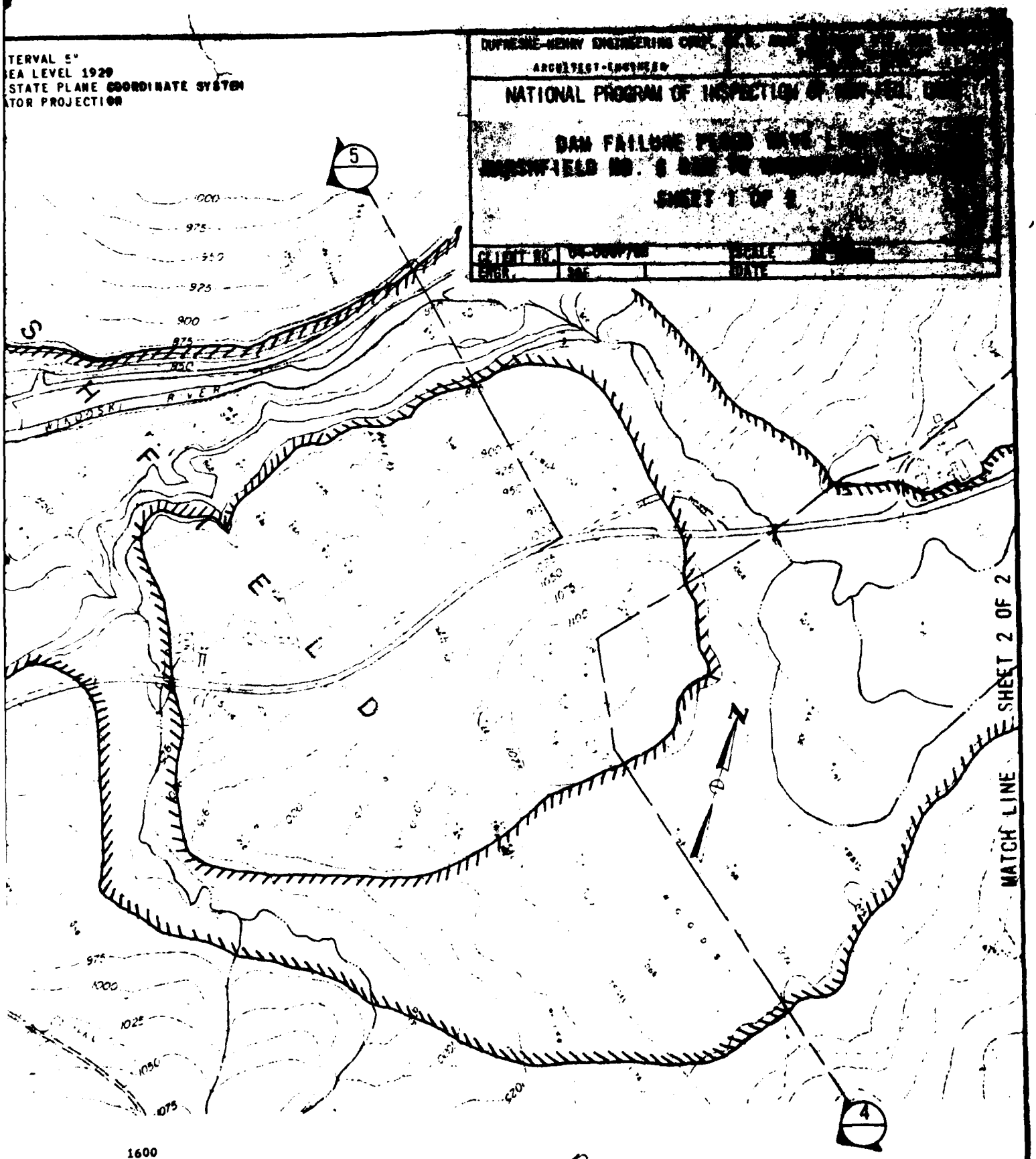
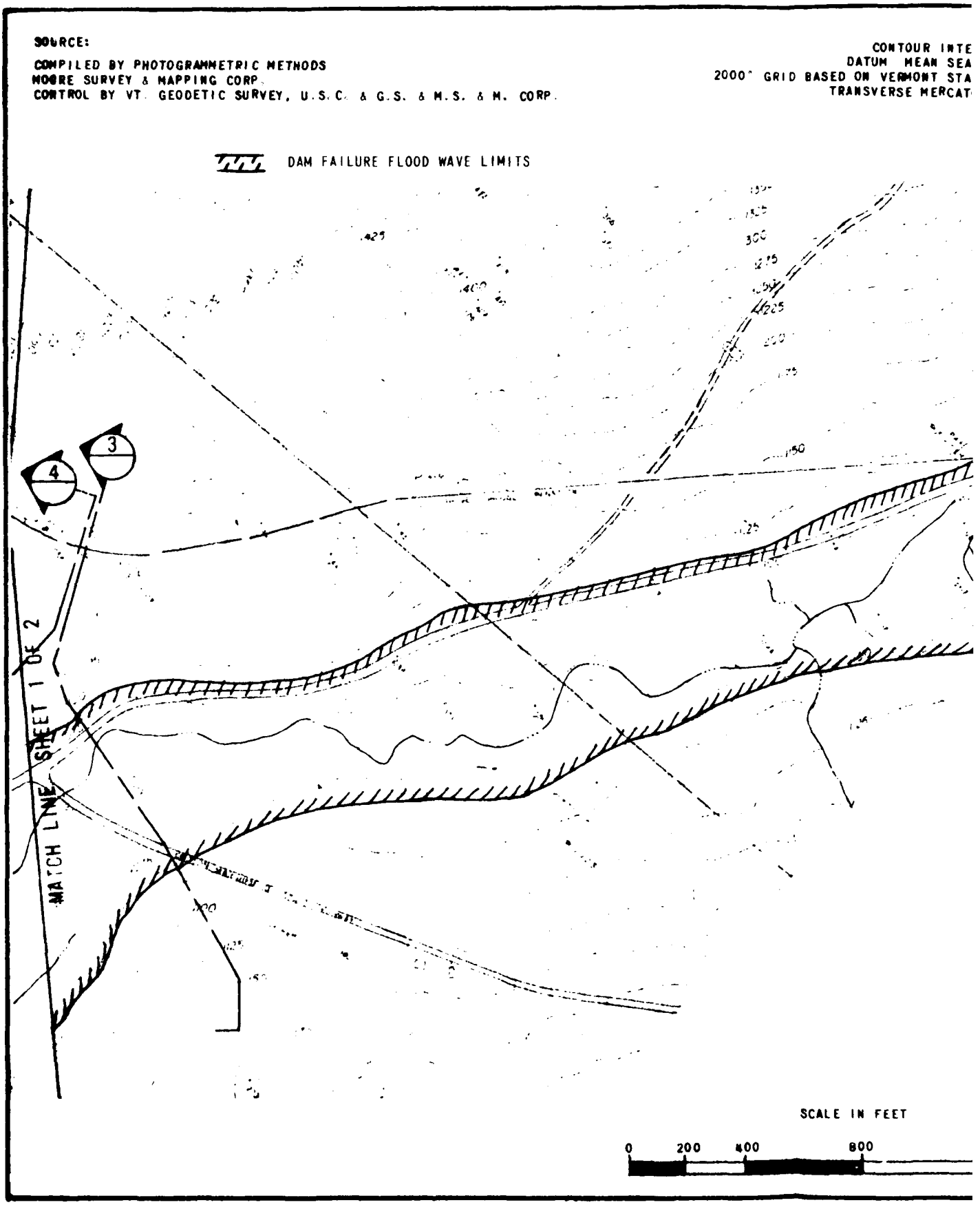

TERVAL 5'
EA LEVEL 1929
STATE PLANE COORDINATE SYSTEM
TOR PROJECTION
DUPRESNE-HENRY ENGINEERING CORP.
ARCHITECT-ENGINEER
NATIONAL PROGRAM OF INSPECTION OF
DAM FAILURE FLOOD WAVE
SHEET 1 OF 2
CLIENT NO.
SCALE
DATE
5
4
SHEET 2 OF 2
MATCH LINE
1600
2
1


SOURCE:
COMPILED BY PHOTOGRAMMETRIC METHODS
MOORE SURVEY & MAPPING CORP.
CONTROL BY VT. GEODETIC SURVEY, U.S.C. & G.S. & M.S. & M. CORP.
CONTOUR INTE
DATUM MEAN SEA
2000' GRID BASED ON VERMONT STA
TRANSVERSE MERCAT
DAM FAILURE FLOOD WAVE LIMITS
3
4
MATCH LINE SHEET 1 OF 2
SCALE IN FEET
0
200
400
800

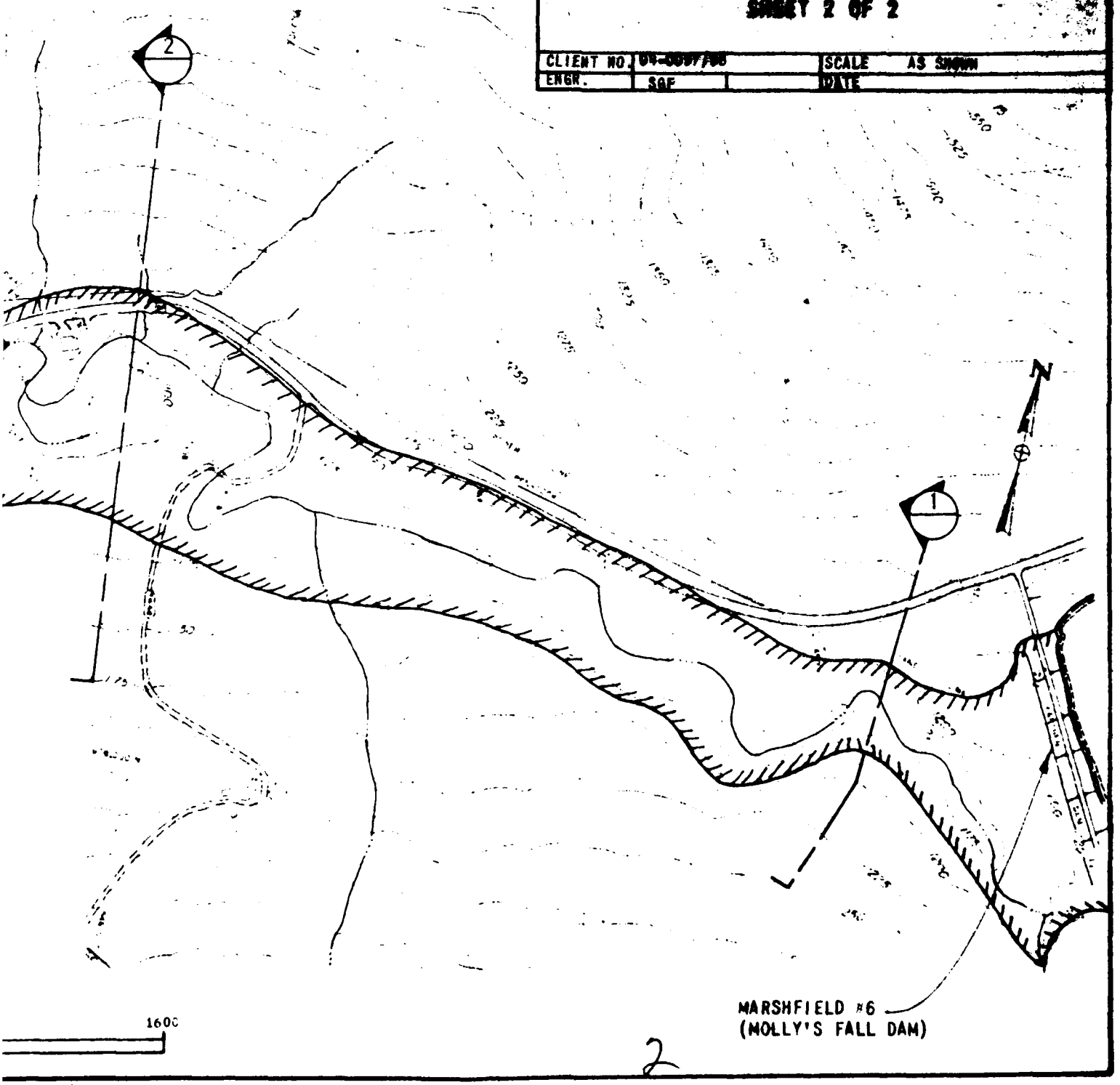
TERVAL 5'
EA LEVEL 1929
TATE PLANE COORDINATE SYSTEM
ATOR PROJECTION

DUFRESNE-HENRY ENGINEERING CORP. ARCHITECT-ENGINEER	U.S. ARMY ENGINEER DIV. [illegible] CORPS OF ENGINEERS WALTHAM, MASS.

NATIONAL PROGRAM OF INSPECTION OF NON-FED. DAMS

DAM FAILURE FLOOD WAVE LIMITS
MARSHFIELD NO. 6 DAM TO MARSHFIELD VILLAGE
SHEET 2 OF 2

CLIENT NO.	64-0097/66	SCALE	AS SHOWN
ENGR.	SGF	DATE	



2

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**********
HEC2 VERSION UPDATED JAN 1975
ERROR CORRECTIONS 01,02,03,04,05,06,07,08
MODIFICATIONS 52,53,54,55,56,57,58
**********

T1      PARSHFIELD DAM NO.6
T2
T3

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC    HVINS     Q        WSEL      FQ
        0.       2.       0.       0.  0.003000      0.0       0.0       0.   835.000     0.0

J2  NPROF     IPLOT    PRFVS    XSECV    XSECH    FN        ALLDC     IBW      CHNIM     ITRACE
    1.000       0.0     -1.000      0.0      0.0      0.0       0.0       0.0       0.0       0.0

QT      9.000  4000.000  8000.000 12000.000 25000.000 50000.000 75000.000 100000.000 120000.000 141000.000
NC      0.070     0.070     0.035     0.100     0.200     0.0       0.0       0.0       0.0       0.0

X1      6.000    10.000   400.000  1020.000   500.000   500.000   500.000     0.0       0.0       0.0
GR    975.000     0.0     855.000   400.000   850.000   470.000   840.000   620.000   832.000   630.000
GR    832.000   700.000   840.000   710.000   850.000  1220.000   860.000  1250.000   950.000  1600.000

X1      5.000    11.000   500.000   800.000  3300.000  3300.000  3400.000     0.0       0.0       0.0
GR   1025.000     0.0     950.000   240.000   875.000   470.000   870.000   500.000   845.000   570.000
GR    845.000   630.000   850.000   640.000   855.000   800.000   875.000   970.000   900.000  1200.000
GR   1025.000  1500.000     0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0

X1      4.000    17.000   360.000  2240.000  1400.000  1800.000  1600.000     0.0       0.0       0.0
GR   1200.000     0.0    1145.000   360.000  1095.000   700.000  1077.000  1000.000  1083.000  1250.000
GR   1060.000  1580.000  1065.000  1590.000  1070.000  1730.000  1119.000  2240.000  1090.000  2560.000
GR   1090.000  2590.000  1100.000  2640.000  1070.000  2800.000  1070.000  3440.000  1075.000  3700.000
GR   1150.000  4100.000  1200.000  4600.000     0.0       0.0       0.0       0.0       0.0       0.0
NC      0.070     0.070     0.045     0.100     0.200     0.0       0.0       0.0       0.0       0.0

X1      3.000    10.000   850.000  1350.000  1900.000   100.000  1150.000     0.0       0.0       0.0
GR   1175.000   250.000  1150.000   450.000  1125.000   660.000  1075.000   850.000  1060.000   930.000
GR   1060.000   950.000  1065.000  1240.000  1075.000  1350.000  1150.000  1900.000  1175.000  2075.000

X1      2.000    10.000   740.000  1390.000  3200.000  3300.000  3300.000     0.0       0.0       0.0
GR   1225.000     0.0    1150.000   430.000  1115.000   700.000  1110.000   740.000  1095.000   820.000
GR   1095.000   850.000  1100.000  1170.000  1110.000  1380.000  1175.000  1930.000  1200.000  2070.000

X1      1.000    12.000   550.000   700.000  2700.000  2700.000  2700.000     0.0       0.0       0.0
GR   1275.000     0.0    1250.000   200.000  1225.000   290.000  1210.000   460.000  1200.000   490.000
GR   1175.000   550.000  1155.000   610.000  1155.000   660.000  1165.000   700.000  1157.000   750.000
GR   1200.000   900.000  1250.000  1330.000     0.0       0.0       0.0       0.0       0.0       0.0
EJ      0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0       0.0
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HEC2 VERSION UPDATED JAN 1975
ERROR CORRECTIONS 01.02.03.04.05.06.07.08
MODIFICATIONS 52.53.54.55.56.57.58
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T1      MARSHFIELD DAM NO.6
T2
T3

J1  ICHECK    INQ      NINV     IDIR     STRT     METRIC    HVINS     Q        WSEL      FQ
       0.       6.       0.       0.  0.003000      0.0      0.0       0.   848.000     0.0

J2  NPROF    IPLOT    PRFVS    XSECV    XSECH      FN      ALLOC     IBW      CHNIM     ITRACE
    5.000      0.0   -1.000      0.0      0.0      0.0      0.0      0.0        0.0        0.0

CCHV#   0.100 CEHV#   0.200
   SECNO    DEPTH    CWSEL    CRIWS    WSELK      EG       HV       HL      OLOSS   BANK ELEV
       Q     QLOB      OCH     QROB     ALOB      ACH     AROB      VOL       TWA  LEFT/RIGHT
    TIME     VLOB      VCH     VROB      XNL     XNCH      XNR      WTN     ELMIN       SSTA
   SLOPE    XLOBL     XLCH    XLOBR    ITRIAL      IDC    ICONT    CORAR    TOPWID      ENDST

    6.00    22.42   854.42      0.0   848.00   854.98     0.56      0.0       0.0   855.00
   50000.       0.       0.  50000.       0.       0.    8321.       0.        0.  1025.00
     0.0      0.0      0.0     6.01    0.070    0.035    0.070      0.0    832.00   408.11
 0.003048     500.     500.     500.        0        0        5      0.0    825.15  1233.26

3301 HV CHANGED MORE THAN HVINS

    5.00    18.70   863.70      0.0      0.0   866.56     2.86     11.12     0.46   870.00
   50000.       0.  48910.     1090.       0.   3564.     321.      466.      45.   855.00
    0.07      0.0    13.72     3.39    0.070    0.035    0.070     0.036   845.00   517.66
0.003630     3300.    3400.     3300.        2        0        1      0.0   356.25   873.90

3685 20 TRIALS USED WSEL.CWSEL

7185 MIN SPECIFIC ENERGY

3720 ASSUMED CRITICAL DEPTH

3265 DIVIDED FLOW

   SECNO    DEPTH    CWSEL    CRIWS    WSELK      EG       HV       HL      OLOSS   BANK ELEV
       Q     QLOB      OCH     QROB     ALOB      ACH     AROB      VOL       TWA  LEFT/RIGHT
    TIME     VLOB      VCH     VROB      XNL     XNCH      XNR      WTN     ELMIN       SSTA
   SLOPE    XLOBL     XLCH    XLOBR    ITRIAL      IDC    ICONT    CORAR    TOPWID      ENDST

    4.00    13.58  1073.58  1073.58      0.0  1075.83     2.25      8.17      0.0  1145.00
   50000.       0.  35174.  10826.       0.   2919.     2662.      647.      77.  1119.00
    0.11      0.0    13.42     4.07    0.070    0.035    0.070     0.035  1060.00  1352.35
0.007438     1400.    1600.     1800.       30       13        1      0.0  1260.40  3626.34
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CCHV0 0.100 CEHV0 0.200

3301 HV CHANGED MORE THAN HVINS

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
3.00	18.22	1078.22	0.0	0.0	1079.09	0.86	3.12	0.14	1075.00
50000.	23.	49933.	45.	20.	6688.	38.	777.	90.	1075.00
0.15	1.15	7.47	1.17	0.070	0.045	0.070	0.038	1060.00	837.74
0.001618	1900.	1150.	100.	3	0	1	0.0	535.91	1373.65

3685 20 TRIALS USED WSEL&CWSEL

7185 MIN SPECIFIC ENERGY

3720 ASSUMED CRITICAL DEPTH

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
2.00	10.37	1105.37	1105.37	0.0	1108.69	3.32	12.27	0.0	1110.00
50000.	0.	50000.	0.	0.	3421.	0.	1163.	130.	1110.00
0.21	0.0	14.61	0.0	0.070	0.045	0.070	0.040	1095.00	764.67
0.015857	3200.	3300.	3300.	30	11	1	0.0	518.19	1282.86

7185 MIN SPECIFIC ENERGY

3720 ASSUMED CRITICAL DEPTH

SECNO	DEPTH	CWSEL	CRIWS	WSELK	EG	HV	HL	OLOSS	BANK ELEV
Q	QLOB	QCH	QROB	ALOB	ACH	AROB	VOL	TWA	LEFT/RIGHT
TIME	VLOB	VCH	VROB	XNL	XNCH	XNR	WTN	ELMIN	SSTA
SLOPE	XLOBL	XLCH	XLOBR	ITRIAL	IDC	ICONT	CORAR	TOPWID	ENDST
1.00	17.57	1172.57	1172.57	0.0	1178.29	5.73	39.88	0.0	1175.00
50000.	0.	38653.	11347.	0.	1864.	1001.	1357.	154.	1165.00
0.25	0.0	20.96	11.33	0.070	0.045	0.070	0.041	1155.00	557.29
0.013790	2700.	2700.	2700.	17	14	1	0.0	247.02	809.38

SUMMARY PRINTOUT FOR MULTIPLE PROFILES

SECTION NUMBER	CHANNEL LENGTH	MIN EL OF ROADWAY	MAX EL OF LOW CHORD	MIN EL GROUND	DISCHARGE (CFS)	CWSEL	CRITS	EG	TOPWID	LOKTS	TIME	VOL
6.00	500.00	0.0	0.0	832.00	4000.00	841.64	0.0	841.96	198.23	30.05	0.0	0.0
6.00	500.00	0.0	0.0	832.00	8000.00	844.78	0.0	845.08	405.70	30.03	0.0	0.0
6.00	500.00	0.0	0.0	832.00	12000.00	846.67	0.0	846.98	530.53	30.02	0.0	0.0
6.00	500.00	0.0	0.0	832.00	25000.00	850.43	0.0	850.80	757.37	29.90	0.0	0.0
6.00	500.00	0.0	0.0	832.00	50000.00	854.42	0.0	854.98	825.15	30.48	0.0	0.0
6.00	500.00	0.0	0.0	832.00	75000.00	857.50	0.0	858.23	850.82	30.56	0.0	0.0
6.00	500.00	0.0	0.0	832.00	100000.00	860.20	0.0	861.08	868.09	30.10	0.0	0.0
6.00	500.00	0.0	0.0	832.00	120000.00	862.00	0.0	863.02	881.11	30.58	0.0	0.0
6.00	500.00	0.0	0.0	832.00	141000.00	863.92	0.0	865.06	895.01	30.10	0.0	0.0
5.00	3400.00	0.0	0.0	845.00	4000.00	852.29	0.0	852.89	163.78	35.17	0.15	58.33
5.00	3400.00	0.0	0.0	845.00	8000.00	854.91	0.0	855.61	254.94	32.41	0.14	115.69
5.00	3400.00	0.0	0.0	845.00	12000.00	856.34	0.0	857.25	273.16	30.61	0.12	164.00
5.00	3400.00	0.0	0.0	845.00	25000.00	859.65	0.0	861.24	316.54	30.99	0.09	294.60
5.00	3400.00	0.0	0.0	845.00	50000.00	863.69	0.0	866.56	356.25	36.30	0.07	466.46
5.00	3400.00	0.0	0.0	845.00	75000.00	866.62	0.0	870.70	389.24	41.09	0.06	606.61
5.00	3400.00	0.0	0.0	845.00	100000.00	868.95	0.0	874.22	415.67	45.54	0.05	730.93
5.00	3400.00	0.0	0.0	845.00	120000.00	870.57	0.0	876.78	435.72	48.48	0.05	817.20
5.00	3400.00	0.0	0.0	845.00	141000.00	871.98	0.0	879.26	456.20	51.81	0.04	906.26
4.00	1600.00	0.0	0.0	1060.00	4000.00	1065.44	1065.44	1066.79	161.31	132.80	0.20	78.01
4.00	1600.00	0.0	0.0	1060.00	8000.00	1067.14	1067.14	1068.87	227.74	123.60	0.18	151.55
4.00	1600.00	0.0	0.0	1060.00	12000.00	1068.39	1068.39	1070.33	276.12	113.67	0.16	212.59
4.00	1600.00	0.0	0.0	1060.00	25000.00	1071.37	1071.37	1073.17	1086.65	70.42	0.13	398.39
4.00	1600.00	0.0	0.0	1060.00	50000.00	1073.58	1073.58	1075.83	1260.40	74.38	0.11	647.15
4.00	1600.00	0.0	0.0	1060.00	75000.00	1075.32	1075.32	1077.78	1381.92	72.14	0.10	853.72
4.00	1600.00	0.0	0.0	1060.00	100000.00	1076.21	1076.21	1079.37	1410.32	87.61	0.08	1020.60
4.00	1600.00	0.0	0.0	1060.00	120000.00	1077.71	1077.71	1080.43	1499.58	75.58	0.08	1163.00
4.00	1600.00	0.0	0.0	1060.00	141000.00	1078.46	1078.46	1081.37	1567.73	83.76	0.08	1286.99
3.00	1150.00	0.0	0.0	1060.00	4000.00	1068.17	0.0	1068.23	388.35	3.88	0.36	110.56
3.00	1150.00	0.0	0.0	1060.00	8000.00	1070.49	0.0	1070.60	426.34	4.93	0.30	201.00
3.00	1150.00	0.0	0.0	1060.00	12000.00	1072.13	0.0	1072.29	453.22	5.84	0.26	275.73
3.00	1150.00	0.0	0.0	1060.00	25000.00	1075.20	0.0	1075.57	502.28	9.52	0.20	494.92
3.00	1150.00	0.0	0.0	1060.00	50000.00	1078.22	0.0	1079.09	535.91	16.18	0.15	777.49
3.00	1150.00	0.0	0.0	1060.00	75000.00	1080.16	0.0	1081.63	557.46	23.09	0.12	1009.28
3.00	1150.00	0.0	0.0	1060.00	100000.00	1081.92	0.0	1084.01	577.07	28.38	0.11	1195.12
3.00	1150.00	0.0	0.0	1060.00	120000.00	1082.50	0.0	1085.30	583.54	36.46	0.10	1353.21
3.00	1150.00	0.0	0.0	1060.00	141000.00	1083.46	0.0	1086.92	594.24	42.01	0.10	1490.79
2.00	3300.00	0.0	0.0	1095.00	4000.00	1098.41	1098.41	1099.38	266.47	244.80	0.48	206.94
2.00	3300.00	0.0	0.0	1095.00	8000.00	1099.63	1099.63	1100.91	350.70	222.26	0.40	347.47
2.00	3300.00	0.0	0.0	1095.00	12000.00	1100.45	1100.45	1102.03	388.62	209.90	0.35	461.35
2.00	3300.00	0.0	0.0	1095.00	25000.00	1102.45	1102.45	1104.83	441.27	185.25	0.27	767.56
2.00	3300.00	0.0	0.0	1095.00	50000.00	1105.37	1105.37	1108.69	516.19	158.57	0.21	1162.57
2.00	3300.00	0.0	0.0	1095.00	75000.00	1107.56	1107.56	1111.66	575.87	150.99	0.18	1479.81
2.00	3300.00	0.0	0.0	1095.00	100000.00	1109.49	1109.49	1114.14	626.65	142.45	0.16	1747.37
2.00	3300.00	0.0	0.0	1095.00	120000.00	1110.68	1110.68	1115.91	651.20	140.02	0.15	1947.00
2.00	3300.00	0.0	0.0	1095.00	141000.00	1111.88	1111.88	1117.66	670.90	133.48	0.14	2135.93
1.00	2700.00	0.0	0.0	1155.00	4000.00	1160.13	1160.13	1161.92	116.32	174.78	0.55	234.88
1.00	2700.00	0.0	0.0	1155.00	8000.00	1162.39	1162.39	1164.80	154.27	162.46	0.46	396.53
1.00	2700.00	0.0	0.0	1155.00	12000.00	1164.06	1164.06	1166.88	182.21	156.46	0.41	528.72
1.00	2700.00	0.0	0.0	1155.00	25000.00	1167.69	1167.69	1171.69	215.37	145.99	0.32	883.39
1.00	2700.00	0.0	0.0	1155.00	50000.00	1172.57	1172.57	1178.29	247.02	137.90	0.25	1356.79
1.00	2700.00	0.0	0.0	1155.00	75000.00	1176.14	1176.14	1183.48	269.53	136.89	0.22	1739.80
1.00	2700.00	0.0	0.0	1155.00	100000.00	1179.38	1179.38	1188.04	288.59	127.44	0.19	2071.29
1.00	2700.00	0.0	0.0	1155.00	120000.00	1181.78	1181.78	1191.33	302.73	121.00	0.18	2316.50
1.00	2700.00	0.0	0.0	1155.00	141000.00	1184.12	1184.12	1194.52	316.48	115.97	0.17	2552.34

SECTION NUMBER	DISCHARGE CFS	CWSEL	CWSEL DIFF EACH Q	CWSEL DIFF EACH SECTION	CWSEL-hSELK	TOPWID	Top. DIFF	LENGTH
6.000	4000.000	841.639	0.0	0.0	0.0	198.230	0.0	500.000
6.000	8000.000	844.783	3.144	0.0	0.0	405.702	-207.472	500.000
6.000	12000.000	845.674	1.891	0.0	0.0	530.533	-332.303	500.000
6.000	25000.000	850.433	3.759	0.0	0.0	757.367	-559.137	500.000
6.000	50000.000	854.420	3.987	0.0	0.0	825.147	-626.917	500.000
6.000	75000.000	857.497	3.077	0.0	0.0	850.816	-652.586	500.000
6.000	100000.000	860.196	2.699	0.0	0.0	868.089	-669.859	500.000
6.000	120000.000	862.000	1.804	0.0	0.0	881.111	-682.881	500.000
6.000	141000.000	863.924	1.924	0.0	0.0	895.007	-696.777	500.000
5.000	4000.000	852.292	0.0	10.653	0.0	163.782	0.0	3400.000
5.000	8000.000	854.910	2.618	10.128	0.0	254.943	-91.161	3400.000
5.000	12000.000	856.341	1.430	9.666	0.0	273.156	-109.374	3400.000
5.000	25000.000	859.649	3.309	9.216	0.0	310.541	-146.759	3400.000
5.000	50000.000	863.695	4.046	9.275	0.0	356.245	-192.463	3400.000
5.000	75000.000	866.617	2.922	9.120	0.0	389.244	-225.462	3400.000
5.000	100000.000	868.947	2.331	8.751	0.0	415.669	-251.887	3400.000
5.000	120000.000	870.565	1.618	8.566	0.0	435.715	-271.933	3400.000
5.000	141000.000	871.979	1.413	8.055	0.0	456.198	-292.416	3400.000
4.000	4000.000	1065.436	0.0	213.144	0.0	161.306	0.0	1600.000
4.000	8000.000	1067.145	1.709	212.234	0.0	227.743	-66.437	1600.000
4.000	12000.000	1068.390	1.245	212.049	0.0	276.121	-114.815	1600.000
4.000	25000.000	1071.373	2.983	211.724	0.0	1086.650	-925.345	1600.000
4.000	50000.000	1073.583	2.210	209.888	0.0	1260.397	-1099.092	1600.000
4.000	75000.000	1075.318	1.735	208.701	0.0	1381.922	-1220.616	1600.000
4.000	100000.000	1076.207	0.889	207.259	0.0	1410.315	-1249.010	1600.000
4.000	120000.000	1077.708	1.501	207.143	0.0	1499.575	-1338.270	1600.000
4.000	141000.000	1078.463	0.755	206.484	0.0	1567.727	-1406.421	1600.000
3.000	4000.000	1068.167	0.0	2.731	0.0	388.352	0.0	1150.000
3.000	8000.000	1070.490	2.323	3.345	0.0	426.343	-37.991	1150.000
3.000	12000.000	1072.130	1.640	3.740	0.0	453.219	-64.868	1150.000
3.000	25000.000	1075.205	3.075	3.832	0.0	502.282	-113.930	1150.000
3.000	50000.000	1078.222	3.017	4.639	0.0	535.909	-147.558	1150.000
3.000	75000.000	1080.160	1.938	4.842	0.0	557.461	-169.110	1150.000
3.000	100000.000	1081.921	1.761	5.714	0.0	577.072	-188.721	1150.000
3.000	120000.000	1082.499	0.578	4.791	0.0	583.542	-195.190	1150.000
3.000	141000.000	1083.461	0.962	4.998	0.0	594.237	-205.885	1150.000
2.000	4000.000	1098.410	0.0	30.244	0.0	266.471	0.0	3300.000
2.000	8000.000	1099.525	1.214	29.135	0.0	350.700	-84.229	3300.000
2.000	12000.000	1100.454	0.829	28.324	0.0	388.618	-122.147	3300.000
2.000	25000.000	1102.453	1.999	27.248	0.0	441.266	-174.794	3300.000
2.000	50000.000	1105.374	2.921	27.152	0.0	518.189	-251.718	3300.000
2.000	75000.000	1107.564	2.191	27.404	0.0	575.870	-309.399	3300.000
2.000	100000.000	1109.493	1.929	27.572	0.0	626.653	-360.182	3300.000
2.000	120000.000	1110.680	1.187	28.181	0.0	651.197	-384.725	3300.000
2.000	141000.000	1111.877	1.197	28.416	0.0	670.898	-404.426	3300.000
1.000	4000.000	1160.125	0.0	61.715	0.0	116.320	0.0	2700.000
1.000	8000.000	1162.392	2.267	62.768	0.0	154.271	-37.952	2700.000
1.000	12000.000	1164.063	1.670	63.609	0.0	182.215	-65.895	2700.000
1.000	25000.000	1167.690	3.628	65.238	0.0	215.368	-99.049	2700.000
1.000	50000.000	1172.369	4.678	67.195	0.0	247.017	-130.697	2700.000
1.000	75000.000	1176.144	3.775	68.579	0.0	269.529	-153.209	2700.000
1.000	100000.000	1179.380	3.236	69.887	0.0	288.585	-172.266	2700.000
1.000	120000.000	1181.783	2.403	71.103	0.0	302.734	-186.415	2700.000
1.000	141000.000	1184.117	2.334	72.241	0.0	316.479	-200.159	2700.000

DATA FOR LAST CROSS SECTION

PROFILE	TYPE ENC	TARGET	TOP WIDTH AREA-ACRES	TOP WIDTH AREA-DIFF
1	0.0	0.0	63.794	0.0
2	0.0	0.0	87.899	24.105
3	0.0	0.0	100.063	36.270
4	0.0	0.0	136.553	72.759
5	0.0	0.0	153.846	90.052
6	0.0	0.0	165.406	101.612
7	0.0	0.0	173.387	109.594
8	0.0	0.0	180.115	116.321
9	0.0	0.0	186.134	122.341

DUFRESNE-HENRY ENGINEERING CORPORATION

BY SHERWARD G. FARNSWORTH SUBJECT PEACHAM POND DAM TEST FLOOD 0.5 PMF SHEET NO. ____ OF ____
DATE 7-31-79 JOB NO. 04-0098

TEST FLOOD @ PEACHAM POND DAM
0.5 PMF ★

THE FOLLOWING INFORMATION IS FROM HEC 1 COMPUTER OUTPUT RUNOFF SUMMARY SHEET. (ROUNDED TO NEAREST 1%)

PEACHAM POND DAM: INFLOW ⇒ 10,200 CFS } REDUCTION 67%
OUTFLOW ⇒ 3,400 CFS }

TEST FLOOD ELEV.: 1407.2 FEET (M.S.L.) } FREE BOARD 1.1 FEET
TOP OF DAM ELEV: 1408.3 FEET (M.S.L.) }

SPILLWAY CAPACITY:

TOP OF DAM: 4200 CFS

TEST FLOOD: 3900 CFS

% CAPACITY OF TEST FLOOD 124%

TEST FLOOD % OF SPILLWAY CAPACITY 81%

★ STARTING WATER SURFACE AT INVERT OF EMERGENCY SPILLWAY. IT SHOULD BE NOTED THE NORMAL WATER SURFACE FOR PEACHAM POND DAM IS ONE FOOT BELOW INVERT IN SUMMER & TWO FEET LOWER IN WINTER.

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**********
HEC-1 VERSION DATED JAN 1973
UPDATED AUG 74
CHANGE NO. 01
**********
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PEACHAM POND DAM 04-0098
CABOT , VERMONT
TEST FLOOD ROUTING ---0.5 PMF

JOB SPECIFICATION

NQ	NHR	NMIN	IDAY	IHR	IMIN	METRC	IPLT	IPRT	NSTAN
144	0	10	1	0	0	0	2	0	0

JOPER	NWT
3	0

********** ********** ********** ********** **********

SUB-AREA RUNOFF COMPUTATION

SUB-AREA NO. 1

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
1	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	1.84	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.11	0.0	0.0

UNIT HYDROGRAPH DATA
TP# 1.10 CP#0.75 NTA# 0

RECESSION DATA
STRTQ# 4.00 QRCSN# -0.10 RTIOR# 1.50

APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC# 8.09 AND R# 4.06 INTERVALS

UNIT HYDROGRAPH 26 END-OF-PERIOD ORDINATES, LAG# 1.10 HOURS, CP# 0.74 VOL# 1.00

48.	173.	336.	511.	669.	774.	811.	776.	661.	517.
404.	315.	246.	192.	150.	117.	92.	72.	56.	44.
34.	27.	21.	16.	13.	10.				

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	4.
1	0 20	0.02	0.00	4.
1	0 30	0.02	0.00	4.
1	0 40	0.02	0.00	3.
1	0 50	0.02	0.00	3.
1	0 60	0.02	0.00	3.
1	1 10	0.02	0.00	3.
1	1 20	0.02	0.00	3.
1	1 30	0.02	0.00	3.
1	1 40	0.02	0.00	3.
1	1 50	0.02	0.00	3.
1	1 60	0.02	0.00	2.
1	2 10	0.02	0.00	2.
1	2 20	0.02	0.00	2.
1	2 30	0.02	0.00	2.
1	2 40	0.02	0.00	2.
1	2 50	0.02	0.00	2.
1	2 60	0.02	0.00	2.
1	3 10	0.02	0.00	2.
1	3 20	0.02	0.00	2.
1	3 30	0.02	0.00	2.
1	3 40	0.02	0.00	2.
1	3 50	0.02	0.00	2.
1	3 60	0.02	0.00	2.
1	4 10	0.02	0.00	1.
1	4 20	0.02	0.00	1.
1	4 30	0.02	0.00	1.
1	4 40	0.02	0.00	1.
1	4 50	0.02	0.00	1.
1	4 60	0.02	0.00	1.
1	5 10	0.02	0.00	1.
1	5 20	0.02	0.00	1.
1	5 30	0.02	0.00	1.
1	5 40	0.02	0.00	1.
1	5 50	0.02	0.00	1.
1	5 60	0.02	0.00	1.

1	6	10	0.05	0.03	3.
1	6	20	0.05	0.03	9.
1	6	30	0.05	0.03	20.
1	6	40	0.05	0.03	38.
1	6	50	0.05	0.03	62.
1	6	60	0.05	0.03	89.
1	7	10	0.05	0.03	117.
1	7	20	0.05	0.03	144.
1	7	30	0.05	0.03	167.
1	7	40	0.05	0.03	185.
1	7	50	0.05	0.03	199.
1	7	60	0.05	0.03	210.
1	8	10	0.05	0.03	219.
1	8	20	0.05	0.03	226.
1	8	30	0.05	0.03	231.
1	8	40	0.05	0.03	235.
1	8	50	0.05	0.03	238.
1	8	60	0.05	0.03	241.
1	9	10	0.05	0.03	243.
1	9	20	0.05	0.03	244.
1	9	30	0.05	0.03	245.
1	9	40	0.05	0.03	246.
1	9	50	0.05	0.03	247.
1	9	60	0.05	0.03	248.
1	10	10	0.05	0.03	248.
1	10	20	0.05	0.03	248.
1	10	30	0.05	0.03	248.
1	10	40	0.05	0.03	248.
1	10	50	0.05	0.03	248.
1	10	60	0.05	0.03	248.
1	11	10	0.05	0.03	248.
1	11	20	0.05	0.03	248.
1	11	30	0.05	0.03	248.
1	11	40	0.05	0.03	248.
1	11	50	0.05	0.03	248.
1	11	60	0.05	0.03	248.
1	12	10	0.30	0.28	260.
1	12	20	0.30	0.28	302.
1	12	30	0.30	0.28	383.
1	12	40	0.30	0.28	507.
1	12	50	0.30	0.28	670.
1	12	60	0.30	0.28	858.
1	13	10	0.36	0.34	1057.
1	13	20	0.36	0.34	1256.
1	13	30	0.36	0.34	1436.
1	13	40	0.36	0.34	1592.
1	13	50	0.36	0.34	1730.
1	13	60	0.36	0.34	1852.
1	14	10	0.44	0.43	1964.
1	14	20	0.44	0.43	2072.
1	14	30	0.44	0.43	2177.
1	14	40	0.44	0.43	2282.
1	14	50	0.44	0.43	2387.
1	14	60	0.44	0.43	2492.
1	15	10	1.12	1.11	2625.
1	15	20	1.12	1.11	2834.
1	15	30	1.12	1.11	3139.
1	15	40	1.12	1.11	3546.
1	15	50	1.12	1.11	4048.
1	15	60	1.12	1.11	4611.
1	16	10	0.41	0.40	5157.
1	16	20	0.41	0.40	5585.
1	16	30	0.41	0.40	5811.
1	16	40	0.41	0.40	5812.
1	16	50	0.41	0.40	5621.
1	16	60	0.41	0.40	5293.
1	17	10	0.33	0.31	4887.
1	17	20	0.33	0.31	4455.
1	17	30	0.33	0.31	4061.

1	17 40	0.33	0.31	3730.
1	17 50	0.33	0.31	3448.
1	17 60	0.33	0.31	3205.
1	18 10	0.03	0.01	2983.
1	18 20	0.03	0.01	2756.
1	18 30	0.03	0.01	2514.
1	18 40	0.03	0.01	2250.
1	18 50	0.03	0.01	1963.
1	18 60	0.03	0.01	1664.
1	19 10	0.03	0.01	1368.
1	19 20	0.03	0.01	1095.
1	19 30	0.03	0.01	860.
1	19 40	0.03	0.01	676.
1	19 50	0.03	0.01	573.
1	19 60	0.03	0.01	551.
1	20 10	0.03	0.01	529.
1	20 20	0.03	0.01	508.
1	20 30	0.03	0.01	488.
1	20 40	0.03	0.01	468.
1	20 50	0.03	0.01	450.
1	20 60	0.03	0.01	432.
1	21 10	0.03	0.01	415.
1	21 20	0.03	0.01	398.
1	21 30	0.03	0.01	382.
1	21 40	0.03	0.01	367.
1	21 50	0.03	0.01	352.
1	21 60	0.03	0.01	338.
1	22 10	0.03	0.01	325.
1	22 20	0.03	0.01	312.
1	22 30	0.03	0.01	300.
1	22 40	0.03	0.01	288.
1	22 50	0.03	0.01	276.
1	22 60	0.03	0.01	265.
1	23 10	0.03	0.01	255.
1	23 20	0.03	0.01	245.
1	23 30	0.03	0.01	235.
1	23 40	0.03	0.01	226.
1	23 50	0.03	0.01	217.
1	23 60	0.03	0.01	208.
	SUM	21.36	18.66	137833.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	5812.	3184.	957.	957.	137835.
INCHES		16.09	19.36	19.36	19.36
AC-FT		1579.	1900.	1900.	1900.

RUNOFF MULTIPLIED BY 0.50

2.	2.	2.	2.	2.	2.	2.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	0.	0.	1.	4.	10.	19.
31.	44.	58.	72.	84.	93.	100.	105.	110.	113.
115.	118.	119.	120.	121.	122.	123.	123.	124.	124.
124.	124.	124.	124.	124.	124.	124.	124.	124.	124.
124.	124.	130.	151.	192.	254.	335.	429.	529.	628.
718.	796.	865.	926.	982.	1036.	1089.	1141.	1194.	1246.
1313.	1417.	1569.	1773.	2024.	2306.	2579.	2792.	2906.	2906.
2811.	2647.	2443.	2228.	2031.	1865.	1724.	1603.	1492.	1378.
1257.	1125.	981.	832.	684.	548.	430.	338.	287.	275.
264.	254.	244.	234.	225.	216.	207.	199.	191.	184.
176.	169.	163.	156.	150.	144.	138.	133.	127.	122.
117.	113.	108.	104.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2906.	1592.	479.	479.	68918.
INCHES		8.05	9.68	9.68	9.68
AC-FT		790.	950.	950.	950.

RUNOFF MULTIPLIED BY 0.50

3.	5.	9.	13.	16.	18.	19.	20.	20.	20.
20.	20.	20.	20.	20.	20.	20.	20.	20.	20.
20.	20.	20.	20.	20.	20.	20.	20.	20.	20.
20.	20.	20.	20.	20.	19.	24.	38.	63.	91.
113.	125.	132.	136.	138.	140.	140.	141.	141.	141.
141.	140.	140.	140.	140.	140.	140.	140.	140.	140.
140.	140.	140.	140.	140.	140.	140.	140.	140.	140.
140.	140.	171.	276.	452.	651.	805.	896.	953.	1007.
1065.	1123.	1165.	1190.	1213.	1259.	1327.	1402.	1459.	1493.
1598.	1902.	2401.	2962.	3398.	3652.	3703.	3475.	3004.	2446.
2007.	1750.	1592.	1471.	1361.	1263.	1192.	1151.	1095.	956.
733.	685.	364.	350.	336.	323.	310.	297.	286.	274.
263.	253.	243.	233.	224.	215.	207.	198.	190.	183.
176.	169.	162.	155.	149.	143.	138.	132.	127.	122.
117.	112.	108.	104.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3703.	1670.	510.	510.	73476.
INCHES		8.40	10.26	10.26	10.26
AC-FT		829.	1013.	1013.	1013.

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COMBINE HYDROGRAPHS

COMBINING SUB-AREAS 1-6

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
20	6	0	0	0	0	1

SUM OF 6 HYDROGRAPHS AT 20

8.	10.	13.	18.	21.	22.	23.	24.	24.	24.
24.	24.	23.	23.	23.	23.	23.	23.	22.	22.
22.	22.	22.	22.	22.	22.	22.	21.	21.	21.
21.	21.	21.	21.	21.	21.	31.	62.	111.	163.
210.	250.	282.	308.	327.	341.	352.	359.	365.	369.
373.	375.	377.	378.	380.	380.	381.	381.	382.	382.
382.	382.	382.	382.	382.	382.	382.	382.	382.	382.
382.	382.	459.	704.	1078.	1463.	1847.	2149.	2411.	2659.
2893.	3095.	3261.	3391.	3520.	3686.	3882.	4073.	4239.	4374.
4698.	5461.	6577.	7759.	8816.	9689.	10162.	9938.	9302.	8417.
7569.	6848.	6229.	5677.	5192.	4791.	4474.	4227.	3947.	3502.
2983.	2434.	2009.	1694.	1422.	1240.	1095.	977.	900.	864.
833.	797.	765.	735.	706.	678.	651.	625.	600.	576.
553.	531.	510.	490.	471.	452.	434.	417.	400.	384.
369.	354.	340.	327.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	10162.	5122.	1554.	1554.	223811.
INCHES		8.12	9.85	9.85	9.85
AC-FT		2541.	3084.	3084.	3084.

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HYDROGRAPH ROUTING

FLOOD ROUTING PEACHAM POND RESERVOIR

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
6	1	0	0	0	0	1

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME
0.0	0.0	0.0	1	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA
1	0	0	0.0	0.0	0.0	-1.

STORAGE#	2755.	3512.	3899.	4571.	5096.	5302.	5510.	5929.	6354.	0.
OUTFLOW#	263.	1060.	1720.	3600.	4500.	5750.	7620.	11765.	16570.	0.

	TIME	EOP STOR	AVG IN	EOP OUT
1	0 10	2756.	8.	8.
1	0 20	2755.	9.	263.
1	0 30	2751.	12.	259.
1	0 40	2748.	16.	256.
1	0 50	2745.	19.	252.
1	0 60	2741.	22.	249.
1	1 10	2739.	23.	246.
1	1 20	2735.	24.	243.
1	1 30	2732.	24.	240.

1	10	10	0.05	0.04	281.
1	10	20	0.05	0.04	281.
1	10	30	0.05	0.04	281.
1	10	40	0.05	0.04	281.
1	10	50	0.05	0.04	281.
1	10	60	0.05	0.04	281.
1	11	10	0.05	0.04	281.
1	11	20	0.05	0.04	281.
1	11	30	0.05	0.04	281.
1	11	40	0.05	0.04	281.
1	11	50	0.05	0.04	281.
1	11	60	0.05	0.04	281.
1	12	10	0.30	0.28	343.
1	12	20	0.30	0.28	552.
1	12	30	0.30	0.28	904.
1	12	40	0.30	0.28	1301.
1	12	50	0.30	0.28	1610.
1	12	60	0.30	0.28	1791.
1	13	10	0.36	0.34	1907.
1	13	20	0.36	0.34	2014.
1	13	30	0.36	0.34	2131.
1	13	40	0.36	0.34	2245.
1	13	50	0.36	0.34	2330.
1	13	60	0.36	0.34	2380.
1	14	10	0.44	0.43	2427.
1	14	20	0.44	0.43	2517.
1	14	30	0.44	0.43	2653.
1	14	40	0.44	0.43	2803.
1	14	50	0.44	0.43	2919.
1	14	60	0.44	0.43	2986.
1	15	10	1.12	1.11	3196.
1	15	20	1.12	1.11	3804.
1	15	30	1.12	1.11	4802.
1	15	40	1.12	1.11	5924.
1	15	50	1.12	1.11	6795.
1	15	60	1.12	1.11	7304.
1	16	10	0.41	0.40	7405.
1	16	20	0.41	0.40	6950.
1	16	30	0.41	0.40	6007.
1	16	40	0.41	0.40	4892.
1	16	50	0.41	0.40	4014.
1	16	60	0.41	0.40	3500.
1	17	10	0.33	0.31	3183.
1	17	20	0.33	0.31	2943.
1	17	30	0.33	0.31	2723.
1	17	40	0.33	0.31	2526.
1	17	50	0.33	0.31	2385.
1	17	60	0.33	0.31	2303.
1	18	10	0.03	0.01	2190.
1	18	20	0.03	0.01	1912.
1	18	30	0.03	0.01	1467.
1	18	40	0.03	0.01	971.
1	18	50	0.03	0.01	729.
1	18	60	0.03	0.01	700.
1	19	10	0.03	0.01	672.
1	19	20	0.03	0.01	645.
1	19	30	0.03	0.01	620.
1	19	40	0.03	0.01	595.
1	19	50	0.03	0.01	571.
1	19	60	0.03	0.01	549.
1	20	10	0.03	0.01	527.
1	20	20	0.03	0.01	506.
1	20	30	0.03	0.01	486.
1	20	40	0.03	0.01	466.
1	20	50	0.03	0.01	448.
1	20	60	0.03	0.01	430.
1	21	10	0.03	0.01	413.
1	21	20	0.03	0.01	397.
1	21	30	0.03	0.01	381.
1	21	40	0.03	0.01	366.
1	21	50	0.03	0.01	351.
1	21	60	0.03	0.01	337.
1	22	10	0.03	0.01	324.
1	22	20	0.03	0.01	311.
1	22	30	0.03	0.01	299.
1	22	40	0.03	0.01	287.
1	22	50	0.03	0.01	275.
1	22	60	0.03	0.01	264.
1	23	10	0.03	0.01	254.
1	23	20	0.03	0.01	244.
1	23	30	0.03	0.01	234.
1	23	40	0.03	0.01	225.
1	23	50	0.03	0.01	216.
1	23	60	0.03	0.01	207.
		SUM	21.36	19.38	146955.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	7405.	3340.	1021.	1021.	146953.
INCHES		16.79	20.53	20.53	20.53
AC-FT		1657.	2025.	2025.	2025.

SUB-AREA RUNOFF COMPUTATION

SUB-AREA NO. 6 PLUS PEACHAM POND

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
6	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	1.85	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.12	0.0	0.30

UNIT HYDROGRAPH DATA

TP# 0.53 CP#0.75 NTA# 0

RECESSION DATA

STRTQ# 4.00 QRCSN# -0.10 RTIOR# 1.50

APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC# 4.26 AND R# 1.76 INTERVALS

UNIT HYDROGRAPH 12 END-OF-PERIOD ORDINATES, LAG# 0.53 HOURS, CP# 0.75 VOL# 1.00

255. 862. 1450. 1638. 1275. 744. 415. 231. 129. 72.
40. 22.

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.01	5.
1	0 20	0.02	0.01	10.
1	0 30	0.02	0.01	17.
1	0 40	0.02	0.01	26.
1	0 50	0.02	0.01	32.
1	0 60	0.02	0.01	36.
1	1 10	0.02	0.01	38.
1	1 20	0.02	0.01	40.
1	1 30	0.02	0.01	40.
1	1 40	0.02	0.01	40.
1	1 50	0.02	0.01	40.
1	1 60	0.02	0.01	40.
1	2 10	0.02	0.01	40.
1	2 20	0.02	0.01	40.
1	2 30	0.02	0.01	40.
1	2 40	0.02	0.01	40.
1	2 50	0.02	0.01	40.
1	2 60	0.02	0.01	40.
1	3 10	0.02	0.01	40.
1	3 20	0.02	0.01	40.
1	3 30	0.02	0.01	40.
1	3 40	0.02	0.01	40.
1	3 50	0.02	0.01	40.
1	3 60	0.02	0.01	40.
1	4 10	0.02	0.01	39.
1	4 20	0.02	0.01	39.
1	4 30	0.02	0.01	39.
1	4 40	0.02	0.01	39.
1	4 50	0.02	0.01	39.
1	4 60	0.02	0.01	39.
1	5 10	0.02	0.01	39.
1	5 20	0.02	0.01	39.
1	5 30	0.02	0.01	39.
1	5 40	0.02	0.01	39.
1	5 50	0.02	0.01	39.
1	5 60	0.02	0.01	39.
1	6 10	0.05	0.04	48.
1	6 20	0.05	0.04	77.
1	6 30	0.05	0.04	126.
1	6 40	0.05	0.04	182.
1	6 50	0.05	0.04	225.
1	6 60	0.05	0.04	250.
1	7 10	0.05	0.04	264.
1	7 20	0.05	0.04	272.
1	7 30	0.05	0.04	277.
1	7 40	0.05	0.04	279.
1	7 50	0.05	0.04	280.
1	7 60	0.05	0.04	281.
1	8 10	0.05	0.04	281.
1	8 20	0.05	0.04	281.
1	8 30	0.05	0.04	281.
1	8 40	0.05	0.04	281.
1	8 50	0.05	0.04	281.
1	8 60	0.05	0.04	281.
1	9 10	0.05	0.04	281.
1	9 20	0.05	0.04	281.
1	9 30	0.05	0.04	281.
1	9 40	0.05	0.04	281.
1	9 50	0.05	0.04	281.
1	9 60	0.05	0.04	281.

1	17	20	0.33	0.28	306.
1	17	30	0.33	0.28	282.
1	17	40	0.33	0.28	261.
1	17	50	0.33	0.28	250.
1	17	60	0.33	0.28	244.
1	18	10	0.03	0.00	230.
1	18	20	0.03	0.00	189.
1	18	30	0.03	0.00	127.
1	18	40	0.03	0.00	87.
1	18	50	0.03	0.00	83.
1	18	60	0.03	0.00	80.
1	19	10	0.03	0.00	77.
1	19	20	0.03	0.00	74.
1	19	30	0.03	0.00	71.
1	19	40	0.03	0.00	68.
1	19	50	0.03	0.00	65.
1	19	60	0.03	0.00	63.
1	20	10	0.03	0.00	60.
1	20	20	0.03	0.00	58.
1	20	30	0.03	0.00	56.
1	20	40	0.03	0.00	53.
1	20	50	0.03	0.00	51.
1	20	60	0.03	0.00	49.
1	21	10	0.03	0.00	47.
1	21	20	0.03	0.00	45.
1	21	30	0.03	0.00	44.
1	21	40	0.03	0.00	42.
1	21	50	0.03	0.00	40.
1	21	60	0.03	0.00	39.
1	22	10	0.03	0.00	37.
1	22	20	0.03	0.00	36.
1	22	30	0.03	0.00	34.
1	22	40	0.03	0.00	33.
1	22	50	0.03	0.00	32.
1	22	60	0.03	0.00	30.
1	23	10	0.03	0.00	29.
1	23	20	0.03	0.00	28.
1	23	30	0.03	0.00	27.
1	23	40	0.03	0.00	26.
1	23	50	0.03	0.00	25.
1	23	60	0.03	0.00	24.
		SUM	21.36	16.50	15568.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	880.	374.	108.	108.	15556.
INCHES		15.81	18.27	18.27	18.27
AC-FT		186.	214.	214.	214.

DVN

RUNOFF MULTIPLIED BY 0.50

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	1.	2.	3.
4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
4.	4.	4.	4.	4.	4.	4.	4.	4.	4.
4.	4.	9.	26.	53.	78.	93.	101.	105.	111.
119.	125.	129.	131.	133.	140.	150.	159.	165.	168.
183.	232.	306.	376.	419.	440.	435.	390.	316.	244.
199.	177.	164.	153.	141.	131.	125.	122.	115.	94.
63.	43.	42.	40.	38.	37.	35.	34.	33.	31.
30.	29.	28.	27.	26.	25.	24.	23.	22.	21.
20.	19.	19.	18.	17.	16.	16.	15.	15.	14.
13.	13.	12.	12.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	440.	187.	54.	54.	7778.
INCHES		7.91	9.14	9.14	9.14
AC-FT		93.	107.	107.	107.

1	2 50	0.02	0.00	1.
1	2 60	0.02	0.00	0.
1	3 10	0.02	0.00	0.
1	3 20	0.02	0.00	0.
1	3 30	0.02	0.00	0.
1	3 40	0.02	0.00	0.
1	3 50	0.02	0.00	0.
1	3 60	0.02	0.00	0.
1	4 10	0.02	0.00	0.
1	4 20	0.02	0.00	0.
1	4 30	0.02	0.00	0.
1	4 40	0.02	0.00	0.
1	4 50	0.02	0.00	0.
1	4 60	0.02	0.00	0.
1	5 10	0.02	0.00	0.
1	5 20	0.02	0.00	0.
1	5 30	0.02	0.00	0.
1	5 40	0.02	0.00	0.
1	5 50	0.02	0.00	0.
1	5 60	0.02	0.00	0.
1	6 10	0.05	0.01	1.
1	6 20	0.05	0.01	2.
1	6 30	0.05	0.01	4.
1	6 40	0.05	0.01	6.
1	6 50	0.05	0.01	8.
1	6 60	0.05	0.01	8.
1	7 10	0.05	0.01	8.
1	7 20	0.05	0.01	9.
1	7 30	0.05	0.01	9.
1	7 40	0.05	0.01	9.
1	7 50	0.05	0.01	9.
1	7 60	0.05	0.01	9.
1	8 10	0.05	0.01	9.
1	8 20	0.05	0.01	9.
1	8 30	0.05	0.01	9.
1	8 40	0.05	0.01	9.
1	8 50	0.05	0.01	9.
1	8 60	0.05	0.01	9.
1	9 10	0.05	0.01	9.
1	9 20	0.05	0.01	9.
1	9 30	0.05	0.01	9.
1	9 40	0.05	0.01	9.
1	9 50	0.05	0.01	9.
1	9 60	0.05	0.01	9.
1	10 10	0.05	0.01	9.
1	10 20	0.05	0.01	9.
1	10 30	0.05	0.01	9.
1	10 40	0.05	0.01	9.
1	10 50	0.05	0.01	9.
1	10 60	0.05	0.01	9.
1	11 10	0.05	0.01	9.
1	11 20	0.05	0.01	9.
1	11 30	0.05	0.01	9.
1	11 40	0.05	0.01	9.
1	11 50	0.05	0.01	9.
1	11 60	0.05	0.01	9.
1	12 10	0.30	0.25	19.
1	12 20	0.30	0.25	53.
1	12 30	0.30	0.25	106.
1	12 40	0.30	0.25	155.
1	12 50	0.30	0.25	186.
1	12 60	0.30	0.25	201.
1	13 10	0.36	0.31	211.
1	13 20	0.36	0.31	223.
1	13 30	0.36	0.31	237.
1	13 40	0.36	0.31	250.
1	13 50	0.36	0.31	258.
1	13 60	0.36	0.31	261.
1	14 10	0.44	0.40	267.
1	14 20	0.44	0.40	280.
1	14 30	0.44	0.40	300.
1	14 40	0.44	0.40	318.
1	14 50	0.44	0.40	330.
1	14 60	0.44	0.40	335.
1	15 10	1.12	1.08	367.
1	15 20	1.12	1.08	464.
1	15 30	1.12	1.08	612.
1	15 40	1.12	1.08	751.
1	15 50	1.12	1.08	838.
1	15 60	1.12	1.08	880.
1	16 10	0.41	0.37	870.
1	16 20	0.41	0.37	780.
1	16 30	0.41	0.37	631.
1	16 40	0.41	0.37	488.
1	16 50	0.41	0.37	397.
1	16 60	0.41	0.37	354.
1	17 10	0.33	0.28	329.

SUM 21.36 17.22 41288.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2017.	977.	287.	287.	41284.
INCHES		15.94	18.72	18.72	18.72
AC-FT		485.	569.	569.	569.

RUNOFF MULTIPLIED BY 0.50

1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	0.	0.	0.
0.	0.	0.	0.	0.	0.	1.	2.	4.	8.
12.	15.	18.	20.	21.	22.	23.	23.	23.	24.
24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
24.	24.	28.	42.	70.	108.	151.	190.	222.	246.
268.	288.	305.	320.	333.	346.	361.	379.	397.	413.
437.	486.	569.	680.	803.	916.	990.	1008.	971.	889.
785.	683.	603.	543.	494.	453.	418.	391.	365.	333.
289.	235.	178.	127.	99.	96.	92.	88.	85.	81.
78.	75.	72.	69.	66.	64.	61.	59.	56.	54.
52.	50.	48.	46.	44.	42.	41.	39.	38.	36.
35.	33.	32.	31.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1008.	489.	143.	143.	20642.
INCHES		7.97	9.36	9.36	9.36
AC-FT		242.	284.	284.	284.

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SUB-AREA RUNOFF COMPUTATION

SUB-AREA NO. 5

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
5	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	0.22	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.26	0.0	0.0

UNIT HYDROGRAPH DATA

TP# 0.47 CP#0.75 NTA# 0

RECESSION DATA

STRTQ# 1.00 QRCSN# -0.10 RTIOR# 1.50

APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC# 3.77 AND R# 1.44 INTERVALS

UNIT HYDROGRAPH 10 END-OF-PERIOD ORDINATES, LAG# 0.47 HOURS, CP# 0.74 VOL# 1.00

43. 141. 217. 205. 128. 62. 30. 14. 7. 3.

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	1.
1	0 20	0.02	0.00	1.
1	0 30	0.02	0.00	1.
1	0 40	0.02	0.00	1.
1	0 50	0.02	0.00	1.
1	0 60	0.02	0.00	1.
1	1 10	0.02	0.00	1.
1	1 20	0.02	0.00	1.
1	1 30	0.02	0.00	1.
1	1 40	0.02	0.00	1.
1	1 50	0.02	0.00	1.
1	1 60	0.02	0.00	1.
1	2 10	0.02	0.00	1.
1	2 20	0.02	0.00	1.
1	2 30	0.02	0.00	1.
1	2 40	0.02	0.00	1.

1	9	10	0.05	0.02	48.
1	9	20	0.05	0.02	48.
1	9	30	0.05	0.02	48.
1	9	40	0.05	0.02	48.
1	9	50	0.05	0.02	48.
1	9	60	0.05	0.02	48.
1	10	10	0.05	0.02	48.
1	10	20	0.05	0.02	48.
1	10	30	0.05	0.02	48.
1	10	40	0.05	0.02	48.
1	10	50	0.05	0.02	48.
1	10	60	0.05	0.02	48.
1	11	10	0.05	0.02	48.
1	11	20	0.05	0.02	48.
1	11	30	0.05	0.02	48.
1	11	40	0.05	0.02	48.
1	11	50	0.05	0.02	48.
1	11	60	0.05	0.02	48.
1	12	10	0.30	0.26	56.
1	12	20	0.30	0.26	85.
1	12	30	0.30	0.26	140.
1	12	40	0.30	0.26	216.
1	12	50	0.30	0.26	301.
1	12	60	0.30	0.26	380.
1	13	10	0.36	0.32	443.
1	13	20	0.36	0.32	493.
1	13	30	0.36	0.32	536.
1	13	40	0.36	0.32	575.
1	13	50	0.36	0.32	611.
1	13	60	0.36	0.32	640.
1	14	10	0.44	0.41	665.
1	14	20	0.44	0.41	691.
1	14	30	0.44	0.41	722.
1	14	40	0.44	0.41	757.
1	14	50	0.44	0.41	794.
1	14	60	0.44	0.41	827.
1	15	10	1.12	1.09	874.
1	15	20	1.12	1.09	973.
1	15	30	1.12	1.09	1138.
1	15	40	1.12	1.09	1360.
1	15	50	1.12	1.09	1605.
1	15	60	1.12	1.09	1831.
1	16	10	0.41	0.38	1980.
1	16	20	0.41	0.38	2017.
1	16	30	0.41	0.38	1941.
1	16	40	0.41	0.38	1778.
1	16	50	0.41	0.38	1569.
1	16	60	0.41	0.38	1367.
1	17	10	0.33	0.29	1207.
1	17	20	0.33	0.29	1086.
1	17	30	0.33	0.29	988.
1	17	40	0.33	0.29	906.
1	17	50	0.33	0.29	837.
1	17	60	0.33	0.29	781.
1	18	10	0.03	0.00	731.
1	18	20	0.03	0.00	665.
1	18	30	0.03	0.00	578.
1	18	40	0.03	0.00	471.
1	18	50	0.03	0.00	357.
1	18	60	0.03	0.00	254.
1	19	10	0.03	0.00	199.
1	19	20	0.03	0.00	191.
1	19	30	0.03	0.00	183.
1	19	40	0.03	0.00	176.
1	19	50	0.03	0.00	169.
1	19	60	0.03	0.00	162.
1	20	10	0.03	0.00	156.
1	20	20	0.03	0.00	150.
1	20	30	0.03	0.00	144.
1	20	40	0.03	0.00	138.
1	20	50	0.03	0.00	133.
1	20	60	0.03	0.00	127.
1	21	10	0.03	0.00	122.
1	21	20	0.03	0.00	117.
1	21	30	0.03	0.00	113.
1	21	40	0.03	0.00	108.
1	21	50	0.03	0.00	104.
1	21	60	0.03	0.00	100.
1	22	10	0.03	0.00	96.
1	22	20	0.03	0.00	92.
1	22	30	0.03	0.00	88.
1	22	40	0.03	0.00	85.
1	22	50	0.03	0.00	82.
1	22	60	0.03	0.00	78.
1	23	10	0.03	0.00	75.
1	23	20	0.03	0.00	72.
1	23	30	0.03	0.00	69.
1	23	40	0.03	0.00	67.
1	23	50	0.03	0.00	64.
1	23	60	0.03	0.00	61.

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SUB-AREA RUNOFF COMPUTATION

SUB-AREA NO. 4

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
4	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	0.57	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.19	0.0	0.0

UNIT HYDROGRAPH DATA

TP# 0.77 CP#0.75 NTA# 0

RECESSION DATA

STRTQ# 3.00 QRCSN# -0.10 RTIOR# 1.50

APPROXIMATE CLARK CUEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC# 5.76 AND R# 2.84 INTERVALS

UNIT HYDROGRAPH 19 END-OF-PERIOD ORDINATES, LAG# 0.77 HOURS, CP# 0.74 VOL# 1.00

34.	119.	225.	314.	352.	326.	250.	175.	123.	86.
60.	42.	30.	21.	15.	10.	7.	5.	3.	

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	3.
1	0 20	0.02	0.00	3.
1	0 30	0.02	0.00	3.
1	0 40	0.02	0.00	3.
1	0 50	0.02	0.00	2.
1	0 60	0.02	0.00	2.
1	1 10	0.02	0.00	2.
1	1 20	0.02	0.00	2.
1	1 30	0.02	0.00	2.
1	1 40	0.02	0.00	2.
1	1 50	0.02	0.00	2.
1	1 60	0.02	0.00	2.
1	2 10	0.02	0.00	2.
1	2 20	0.02	0.00	2.
1	2 30	0.02	0.00	2.
1	2 40	0.02	0.00	2.
1	2 50	0.02	0.00	2.
1	2 60	0.02	0.00	1.
1	3 10	0.02	0.00	1.
1	3 20	0.02	0.00	1.
1	3 30	0.02	0.00	1.
1	3 40	0.02	0.00	1.
1	3 50	0.02	0.00	1.
1	3 60	0.02	0.00	1.
1	4 10	0.02	0.00	1.
1	4 20	0.02	0.00	1.
1	4 30	0.02	0.00	1.
1	4 40	0.02	0.00	1.
1	4 50	0.02	0.00	1.
1	4 60	0.02	0.00	1.
1	5 10	0.02	0.00	1.
1	5 20	0.02	0.00	1.
1	5 30	0.02	0.00	1.
1	5 40	0.02	0.00	1.
1	5 50	0.02	0.00	1.
1	5 60	0.02	0.00	1.
1	6 10	0.05	0.02	1.
1	6 20	0.05	0.02	4.
1	6 30	0.05	0.02	9.
1	6 40	0.05	0.02	16.
1	6 50	0.05	0.02	23.
1	6 60	0.05	0.02	30.
1	7 10	0.05	0.02	36.
1	7 20	0.05	0.02	39.
1	7 30	0.05	0.02	42.
1	7 40	0.05	0.02	44.
1	7 50	0.05	0.02	45.
1	7 60	0.05	0.02	46.
1	8 10	0.05	0.02	47.
1	8 20	0.05	0.02	47.
1	8 30	0.05	0.02	47.
1	8 40	0.05	0.02	48.
1	8 50	0.05	0.02	48.
1	8 60	0.05	0.02	48.

1	22 50	0.03	0.01	149.
1	22 60	0.03	0.01	143.
1	23 10	0.03	0.01	138.
1	23 20	0.03	0.01	132.
1	23 30	0.03	0.01	127.
1	23 40	0.03	0.01	122.
1	23 50	0.03	0.01	117.
1	23 60	0.03	0.01	112.
	SUM	21.36	18.48	77031.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3595.	1790.	535.	535.	77027.
INCHES		16.32	19.51	19.51	19.51
AC-FT		888.	1062.	1062.	1062.

RUNOFF MULTIPLIED BY 0.50

1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	1.	4.	10.	18.
28.	37.	46.	52.	56.	59.	61.	62.	63.	64.
65.	65.	65.	65.	66.	66.	66.	66.	66.	66.
66.	66.	66.	66.	66.	66.	66.	66.	66.	66.
66.	66.	72.	94.	136.	195.	266.	337.	398.	447.
488.	524.	557.	585.	609.	633.	660.	690.	721.	751.
793.	872.	1002.	1178.	1382.	1586.	1738.	1798.	1763.	1649.
1486.	1309.	1153.	1033.	939.	861.	796.	742.	693.	634.
560.	471.	373.	277.	198.	175.	168.	161.	155.	149.
143.	137.	132.	127.	121.	117.	112.	108.	103.	99.
95.	91.	88.	84.	81.	78.	75.	72.	69.	66.
63.	61.	59.	56.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1798.	895.	267.	267.	38514.
INCHES		8.16	9.76	9.76	9.76
AC-FT		444.	531.	531.	531.

1	8	10	0.05	0.03	127.
1	8	20	0.05	0.03	128.
1	8	30	0.05	0.03	129.
1	8	40	0.05	0.03	130.
1	8	50	0.05	0.03	131.
1	8	60	0.05	0.03	131.
1	9	10	0.05	0.03	131.
1	9	20	0.05	0.03	131.
1	9	30	0.05	0.03	131.
1	9	40	0.05	0.03	131.
1	9	50	0.05	0.03	131.
1	9	60	0.05	0.03	131.
1	10	10	0.05	0.03	131.
1	10	20	0.05	0.03	131.
1	10	30	0.05	0.03	131.
1	10	40	0.05	0.03	131.
1	10	50	0.05	0.03	131.
1	10	60	0.05	0.03	131.
1	11	10	0.05	0.03	131.
1	11	20	0.05	0.03	131.
1	11	30	0.05	0.03	131.
1	11	40	0.05	0.03	131.
1	11	50	0.05	0.03	131.
1	11	60	0.05	0.03	131.
1	12	10	0.30	0.28	144.
1	12	20	0.30	0.28	188.
1	12	30	0.30	0.28	271.
1	12	40	0.30	0.28	391.
1	12	50	0.30	0.28	532.
1	12	60	0.30	0.28	674.
1	13	10	0.36	0.34	797.
1	13	20	0.36	0.34	894.
1	13	30	0.36	0.34	976.
1	13	40	0.36	0.34	1049.
1	13	50	0.36	0.34	1114.
1	13	60	0.36	0.34	1170.
1	14	10	0.44	0.42	1219.
1	14	20	0.44	0.42	1267.
1	14	30	0.44	0.42	1320.
1	14	40	0.44	0.42	1380.
1	14	50	0.44	0.42	1442.
1	14	60	0.44	0.42	1502.
1	15	10	1.12	1.10	1587.
1	15	20	1.12	1.10	1745.
1	15	30	1.12	1.10	2003.
1	15	40	1.12	1.10	2356.
1	15	50	1.12	1.10	2765.
1	15	60	1.12	1.10	3171.
1	16	10	0.41	0.39	3476.
1	16	20	0.41	0.39	3595.
1	16	30	0.41	0.39	3526.
1	16	40	0.41	0.39	3299.
1	16	50	0.41	0.39	2972.
1	16	60	0.41	0.39	2618.
1	17	10	0.33	0.31	2307.
1	17	20	0.33	0.31	2066.
1	17	30	0.33	0.31	1877.
1	17	40	0.33	0.31	1722.
1	17	50	0.33	0.31	1591.
1	17	60	0.33	0.31	1484.
1	18	10	0.03	0.01	1385.
1	18	20	0.03	0.01	1268.
1	18	30	0.03	0.01	1120.
1	18	40	0.03	0.01	941.
1	18	50	0.03	0.01	745.
1	18	60	0.03	0.01	555.
1	19	10	0.03	0.01	396.
1	19	20	0.03	0.01	350.
1	19	30	0.03	0.01	336.
1	19	40	0.03	0.01	323.
1	19	50	0.03	0.01	310.
1	19	60	0.03	0.01	298.
1	20	10	0.03	0.01	286.
1	20	20	0.03	0.01	274.
1	20	30	0.03	0.01	263.
1	20	40	0.03	0.01	253.
1	20	50	0.03	0.01	243.
1	20	60	0.03	0.01	233.
1	21	10	0.03	0.01	224.
1	21	20	0.03	0.01	215.
1	21	30	0.03	0.01	207.
1	21	40	0.03	0.01	198.
1	21	50	0.03	0.01	190.
1	21	60	0.03	0.01	183.
1	22	10	0.03	0.01	176.
1	22	20	0.03	0.01	169.
1	22	30	0.03	0.01	162.

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SUB-AREA RUNOFF COMPUTATION

SUB-AREA NO. 3

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
3	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	1.02	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.12	0.0	0.0

UNIT HYDROGRAPH DATA

TP# 0.84 CP#0.75 NTA# 0

RECESSION DATA

STRTQ# 2.00 QRCSN# -0.10 RTIOR# 1.50

APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC# 6.35 AND R# 2.90 INTERVALS

UNIT HYDROGRAPH 19 END-OF-PERIOD ORDINATES, LAG# 0.83 HOURS, CP# 0.74 VOL# 1.00

51.	182.	344.	494.	582.	585.	493.	358.	253.	178.
126.	89.	63.	44.	31.	22.	16.	11.	8.	

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	2.
1	0 20	0.02	0.00	2.
1	0 30	0.02	0.00	2.
1	0 40	0.02	0.00	2.
1	0 50	0.02	0.00	2.
1	0 60	0.02	0.00	2.
1	1 10	0.02	0.00	2.
1	1 20	0.02	0.00	1.
1	1 30	0.02	0.00	1.
1	1 40	0.02	0.00	1.
1	1 50	0.02	0.00	1.
1	1 60	0.02	0.00	1.
1	2 10	0.02	0.00	1.
1	2 20	0.02	0.00	1.
1	2 30	0.02	0.00	1.
1	2 40	0.02	0.00	1.
1	2 50	0.02	0.00	1.
1	2 60	0.02	0.00	1.
1	3 10	0.02	0.00	1.
1	3 20	0.02	0.00	1.
1	3 30	0.02	0.00	1.
1	3 40	0.02	0.00	1.
1	3 50	0.02	0.00	1.
1	3 60	0.02	0.00	1.
1	4 10	0.02	0.00	1.
1	4 20	0.02	0.00	1.
1	4 30	0.02	0.00	1.
1	4 40	0.02	0.00	1.
1	4 50	0.02	0.00	1.
1	4 60	0.02	0.00	1.
1	5 10	0.02	0.00	1.
1	5 20	0.02	0.00	1.
1	5 30	0.02	0.00	1.
1	5 40	0.02	0.00	1.
1	5 50	0.02	0.00	0.
1	5 60	0.02	0.00	0.
1	6 10	0.05	0.03	2.
1	6 20	0.05	0.03	8.
1	6 30	0.05	0.03	20.
1	6 40	0.05	0.03	36.
1	6 50	0.05	0.03	55.
1	6 60	0.05	0.03	75.
1	7 10	0.05	0.03	91.
1	7 20	0.05	0.03	103.
1	7 30	0.05	0.03	112.
1	7 40	0.05	0.03	118.
1	7 50	0.05	0.03	122.
1	7 60	0.05	0.03	125.

1 22 40	0.03	0.01	56.	
1 22 50	0.03	0.01	54.	
1 22 60	0.03	0.01	52.	
1 23 10	0.03	0.01	50.	
1 23 20	0.03	0.01	48.	
1 23 30	0.03	0.01	46.	
1 23 40	0.03	0.01	44.	
1 23 50	0.03	0.01	42.	
1 23 60	0.03	0.01	40.	
SUM	21.36	18.48	28973.	

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1580.	669.	201.	201.	28967.
INCHES		16.82	20.23	20.23	20.23
AC-FT		332.	399.	399.	399.

RUNOFF MULTIPLIED BY 0.50

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	4.	13.	21.	24.
24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
24.	24.	49.	114.	176.	197.	197.	197.	203.	219.
235.	240.	240.	240.	249.	273.	295.	303.	303.	303.
373.	557.	731.	790.	790.	790.	717.	525.	344.	282.
282.	282.	273.	249.	226.	219.	219.	219.	188.	107.
77.	74.	71.	68.	65.	63.	60.	58.	56.	53.
51.	49.	47.	45.	44.	42.	40.	39.	37.	36.
34.	33.	32.	30.	29.	28.	27.	26.	25.	24.
23.	22.	21.	20.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	790.	335.	101.	101.	14483.
INCHES		8.41	10.11	10.11	10.11
AC-FT		166.	200.	200.	200.

1	8	10	0.05	0.03	48.
1	8	20	0.05	0.03	48.
1	8	30	0.05	0.03	48.
1	8	40	0.05	0.03	48.
1	8	50	0.05	0.03	48.
1	8	60	0.05	0.03	48.
1	9	10	0.05	0.03	48.
1	9	20	0.05	0.03	48.
1	9	30	0.05	0.03	48.
1	9	40	0.05	0.03	48.
1	9	50	0.05	0.03	48.
1	9	60	0.05	0.03	48.
1	10	10	0.05	0.03	48.
1	10	20	0.05	0.03	48.
1	10	30	0.05	0.03	48.
1	10	40	0.05	0.03	48.
1	10	50	0.05	0.03	48.
1	10	60	0.05	0.03	48.
1	11	10	0.05	0.03	48.
1	11	20	0.05	0.03	48.
1	11	30	0.05	0.03	48.
1	11	40	0.05	0.03	48.
1	11	50	0.05	0.03	48.
1	11	60	0.05	0.03	48.
1	12	10	0.30	0.28	97.
1	12	20	0.30	0.28	229.
1	12	30	0.30	0.28	352.
1	12	40	0.30	0.28	395.
1	12	50	0.30	0.28	395.
1	12	60	0.30	0.28	395.
1	13	10	0.36	0.34	407.
1	13	20	0.36	0.34	439.
1	13	30	0.36	0.34	469.
1	13	40	0.36	0.34	479.
1	13	50	0.36	0.34	479.
1	13	60	0.36	0.34	479.
1	14	10	0.44	0.42	498.
1	14	20	0.44	0.42	546.
1	14	30	0.44	0.42	591.
1	14	40	0.44	0.42	607.
1	14	50	0.44	0.42	607.
1	14	60	0.44	0.42	607.
1	15	10	1.12	1.10	746.
1	15	20	1.12	1.10	1115.
1	15	30	1.12	1.10	1461.
1	15	40	1.12	1.10	1580.
1	15	50	1.12	1.10	1580.
1	15	60	1.12	1.10	1580.
1	16	10	0.41	0.39	1435.
1	16	20	0.41	0.39	1050.
1	16	30	0.41	0.39	688.
1	16	40	0.41	0.39	564.
1	16	50	0.41	0.39	564.
1	16	60	0.41	0.39	564.
1	17	10	0.33	0.31	546.
1	17	20	0.33	0.31	498.
1	17	30	0.33	0.31	453.
1	17	40	0.33	0.31	437.
1	17	50	0.33	0.31	437.
1	17	60	0.33	0.31	437.
1	18	10	0.03	0.01	376.
1	18	20	0.03	0.01	214.
1	18	30	0.03	0.01	154.
1	18	40	0.03	0.01	148.
1	18	50	0.03	0.01	142.
1	18	60	0.03	0.01	136.
1	19	10	0.03	0.01	131.
1	19	20	0.03	0.01	126.
1	19	30	0.03	0.01	121.
1	19	40	0.03	0.01	116.
1	19	50	0.03	0.01	111.
1	19	60	0.03	0.01	107.
1	20	10	0.03	0.01	103.
1	20	20	0.03	0.01	99.
1	20	30	0.03	0.01	95.
1	20	40	0.03	0.01	91.
1	20	50	0.03	0.01	87.
1	20	60	0.03	0.01	84.
1	21	10	0.03	0.01	81.
1	21	20	0.03	0.01	77.
1	21	30	0.03	0.01	74.
1	21	40	0.03	0.01	71.
1	21	50	0.03	0.01	68.
1	21	60	0.03	0.01	66.
1	22	10	0.03	0.01	63.
1	22	20	0.03	0.01	61.
1	22	30	0.03	0.01	58.

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SUB-AREA RUNOFF COMPUTATION

SUB-AREA NO. 2

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
2	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	0.37	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.12	0.0	0.0

UNIT HYDROGRAPH DATA

TP= 0.30 CP=0.75 NTA= 0

RECESSION DATA

STRTQ= 1.00 QRCSN= -0.10 RTIOR= 1.50

CLARK DID NOT CONVERGE TO GIVEN SNYDER COEFFICIENTS
APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC= 2.88 AND R= 0.50 INTERVALS

UNIT HYDROGRAPH 4 END-OF-PERIOD ORDINATES, LAG= 0.30 HOURS, CP= 0.74 VOL= 1.00
205. 541. 509. 175.

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	1.
1	0 20	0.02	0.00	1.
1	0 30	0.02	0.00	1.
1	0 40	0.02	0.00	1.
1	0 50	0.02	0.00	1.
1	0 60	0.02	0.00	1.
1	1 10	0.02	0.00	1.
1	1 20	0.02	0.00	1.
1	1 30	0.02	0.00	1.
1	1 40	0.02	0.00	1.
1	1 50	0.02	0.00	1.
1	1 60	0.02	0.00	1.
1	2 10	0.02	0.00	1.
1	2 20	0.02	0.00	1.
1	2 30	0.02	0.00	1.
1	2 40	0.02	0.00	1.
1	2 50	0.02	0.00	1.
1	2 60	0.02	0.00	0.
1	3 10	0.02	0.00	0.
1	3 20	0.02	0.00	0.
1	3 30	0.02	0.00	0.
1	3 40	0.02	0.00	0.
1	3 50	0.02	0.00	0.
1	3 60	0.02	0.00	0.
1	4 10	0.02	0.00	0.
1	4 20	0.02	0.00	0.
1	4 30	0.02	0.00	0.
1	4 40	0.02	0.00	0.
1	4 50	0.02	0.00	0.
1	4 60	0.02	0.00	0.
1	5 10	0.02	0.00	0.
1	5 20	0.02	0.00	0.
1	5 30	0.02	0.00	0.
1	5 40	0.02	0.00	0.
1	5 50	0.02	0.00	0.
1	5 60	0.02	0.00	0.
1	6 10	0.05	0.03	7.
1	6 20	0.05	0.03	25.
1	6 30	0.05	0.03	42.
1	6 40	0.05	0.03	48.
1	6 50	0.05	0.03	48.
1	6 60	0.05	0.03	48.
1	7 10	0.05	0.03	48.
1	7 20	0.05	0.03	48.
1	7 30	0.05	0.03	48.
1	7 40	0.05	0.03	48.
1	7 50	0.05	0.03	48.
1	7 60	0.05	0.03	48.

1	1	40	2729.	24.	236.
1	1	50	2726.	24.	233.
1	1	60	2724.	24.	230.
1	2	10	2721.	24.	227.
1	2	20	2718.	23.	224.
1	2	30	2715.	23.	222.
1	2	40	2712.	23.	219.
1	2	50	2710.	23.	216.
1	2	60	2707.	23.	213.
1	3	10	2705.	23.	210.
1	3	20	2702.	22.	208.
1	3	30	2699.	22.	205.
1	3	40	2697.	22.	202.
1	3	50	2694.	22.	200.
1	3	60	2692.	22.	197.
1	4	10	2690.	22.	195.
1	4	20	2687.	22.	192.
1	4	30	2685.	22.	190.
1	4	40	2683.	21.	187.
1	4	50	2680.	21.	185.
1	4	60	2678.	21.	183.
1	5	10	2676.	21.	180.
1	5	20	2674.	21.	178.
1	5	30	2672.	21.	176.
1	5	40	2670.	21.	173.
1	5	50	2667.	21.	171.
1	5	60	2665.	21.	169.
1	6	10	2663.	26.	167.
1	6	20	2662.	47.	165.
1	6	30	2661.	86.	164.
1	6	40	2660.	137.	164.
1	6	50	2661.	187.	164.
1	6	60	2662.	230.	165.
1	7	10	2663.	266.	166.
1	7	20	2665.	295.	168.
1	7	30	2667.	317.	170.
1	7	40	2669.	334.	173.
1	7	50	2671.	346.	175.
1	7	60	2674.	356.	178.
1	8	10	2676.	362.	181.
1	8	20	2679.	367.	183.
1	8	30	2681.	371.	186.
1	8	40	2684.	374.	189.
1	8	50	2687.	376.	191.
1	8	60	2689.	378.	194.
1	9	10	2692.	379.	197.
1	9	20	2694.	380.	199.
1	9	30	2697.	381.	202.
1	9	40	2699.	381.	205.
1	9	50	2701.	381.	207.
1	9	60	2704.	382.	210.
1	10	10	2706.	382.	212.
1	10	20	2709.	382.	215.
1	10	30	2711.	382.	217.
1	10	40	2713.	382.	219.
1	10	50	2715.	382.	222.
1	10	60	2718.	382.	224.
1	11	10	2720.	382.	226.
1	11	20	2722.	382.	228.
1	11	30	2724.	382.	231.
1	11	40	2726.	382.	233.
1	11	50	2728.	382.	235.
1	11	60	2730.	382.	237.
1	12	10	2733.	421.	240.
1	12	20	2737.	582.	245.
1	12	30	2745.	891.	254.
1	12	40	2760.	1280.	269.
1	12	50	2779.	1665.	289.
1	12	60	2803.	1998.	313.
1	13	10	2829.	2280.	342.
1	13	20	2859.	2535.	373.
1	13	30	2892.	2776.	408.
1	13	40	2928.	2994.	445.
1	13	50	2965.	3178.	485.
1	13	60	3004.	3326.	525.
1	14	10	3044.	3455.	568.
1	14	20	3085.	3603.	611.
1	14	30	3129.	3784.	657.
1	14	40	3174.	3978.	705.
1	14	50	3221.	4156.	755.
1	14	60	3270.	4307.	806.
1	15	10	3321.	4536.	859.
1	15	20	3379.	5082.	920.
1	15	30	3449.	6022.	994.
1	15	40	3533.	7168.	1096.
1	15	50	3631.	8287.	1263.
1	15	60	3740.	9252.	1448.

1	16	10	3855.	9925.	1645.
1	16	20	3969.	10075.	1916.
1	16	30	4074.	9645.	2209.
1	16	40	4164.	8860.	2460.
1	16	50	4238.	7993.	2670.
1	16	60	4300.	7209.	2841.
1	17	10	4350.	6539.	2981.
1	17	20	4390.	5953.	3094.
1	17	30	4421.	5434.	3182.
1	17	40	4446.	4992.	3251.
1	17	50	4464.	4633.	3303.
1	17	60	4479.	4351.	3343.
1	18	10	4489.	4087.	3371.
1	18	20	4493.	3725.	3384.
1	18	30	4492.	3241.	3379.
1	18	40	4482.	2707.	3353.
1	18	50	4467.	2222.	3310.
1	18	60	4447.	1852.	3255.
1	19	10	4425.	1558.	3191.
1	19	20	4399.	1331.	3121.
1	19	30	4373.	1168.	3047.
1	19	40	4346.	1036.	2971.
1	19	50	4318.	939.	2894.
1	19	60	4291.	882.	2818.
1	20	10	4265.	847.	2743.
1	20	20	4238.	814.	2670.
1	20	30	4213.	781.	2599.
1	20	40	4188.	750.	2529.
1	20	50	4164.	720.	2460.
1	20	60	4140.	692.	2393.
1	21	10	4116.	664.	2328.
1	21	20	4093.	638.	2264.
1	21	30	4071.	613.	2202.
1	21	40	4049.	588.	2141.
1	21	50	4028.	565.	2081.
1	21	60	4007.	542.	2023.
1	22	10	3987.	521.	1966.
1	22	20	3967.	500.	1910.
1	22	30	3948.	480.	1856.
1	22	40	3929.	461.	1804.
1	22	50	3911.	443.	1752.
1	22	60	3893.	425.	1709.
1	23	10	3875.	408.	1679.
1	23	20	3857.	392.	1649.
1	23	30	3840.	377.	1619.
1	23	40	3823.	362.	1590.
1	23	50	3806.	347.	1561.
1	23	60	3789.	333.	1533.
		SUM			149417.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3384.	2771.	1036.	1038.	149417.
INCHES		4.39	6.58	6.58	6.58
AC-FT		1375.	2059.	2059.	2059.

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SUB-AREA RUNOFF COMPUTATION

SUB-AREA 7 --AREA BETWEEN PEACHAM POND AND MOLLYS

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
7	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	0.52	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.10	0.0	0.0

UNIT HYDROGRAPH DATA

TP# 0.47 CP#0.75 NTA# 0

RECESSION DATA

STRTQ# 1.00 QRCSN# -0.10 RTIOR# 1.50

APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC# 3.77 AND R# 1.44 INTERVALS

UNIT HYDROGRAPH 10 END-OF-PERIOD ORDINATES, LAG# 0.47 HOURS, CP# 0.74 VOL# 1.00

101. 332. 512. 494. 301. 146. 70. 34. 16. 8.

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	1.
1	0 20	0.02	0.00	1.
1	0 30	0.02	0.00	1.
1	0 40	0.02	0.00	1.
1	0 50	0.02	0.00	1.
1	0 60	0.02	0.00	1.
1	1 10	0.02	0.00	1.
1	1 20	0.02	0.00	1.
1	1 30	0.02	0.00	1.
1	1 40	0.02	0.00	1.
1	1 50	0.02	0.00	1.
1	1 60	0.02	0.00	1.
1	2 10	0.02	0.00	1.
1	2 20	0.02	0.00	1.
1	2 30	0.02	0.00	1.
1	2 40	0.02	0.00	1.
1	2 50	0.02	0.00	1.
1	2 60	0.02	0.00	0.
1	3 10	0.02	0.00	0.
1	3 20	0.02	0.00	0.
1	3 30	0.02	0.00	0.
1	3 40	0.02	0.00	0.
1	3 50	0.02	0.00	0.
1	3 60	0.02	0.00	0.
1	4 10	0.02	0.00	1.
1	4 20	0.02	0.00	1.
1	4 30	0.02	0.00	2.
1	4 40	0.02	0.00	2.
1	4 50	0.02	0.00	2.
1	4 60	0.02	0.00	2.
1	5 10	0.02	0.00	2.
1	5 20	0.02	0.00	2.
1	5 30	0.02	0.00	2.
1	5 40	0.02	0.00	2.
1	5 50	0.02	0.00	2.
1	5 60	0.02	0.00	2.
1	6 10	0.05	0.04	6.
1	6 20	0.05	0.04	18.
1	6 30	0.05	0.04	36.
1	6 40	0.05	0.04	53.
1	6 50	0.05	0.04	64.
1	6 60	0.05	0.04	69.
1	7 10	0.05	0.04	72.
1	7 20	0.05	0.04	73.
1	7 30	0.05	0.04	73.
1	7 40	0.05	0.04	74.
1	7 50	0.05	0.04	74.
1	7 60	0.05	0.04	74.
1	8 10	0.05	0.04	74.

1	8	20	0.05	0.04	74.
1	8	30	0.05	0.04	74.
1	8	40	0.05	0.04	74.
1	8	50	0.05	0.04	74.
1	8	60	0.05	0.04	74.
1	9	10	0.05	0.04	74.
1	9	20	0.05	0.04	74.
1	9	30	0.05	0.04	74.
1	9	40	0.05	0.04	74.
1	9	50	0.05	0.04	74.
1	9	60	0.05	0.04	74.
1	10	10	0.05	0.04	74.
1	10	20	0.05	0.04	74.
1	10	30	0.05	0.04	74.
1	10	40	0.05	0.04	74.
1	10	50	0.05	0.04	74.
1	10	60	0.05	0.04	74.
1	11	10	0.05	0.04	74.
1	11	20	0.05	0.04	74.
1	11	30	0.05	0.04	74.
1	11	40	0.05	0.04	74.
1	11	50	0.05	0.04	74.
1	11	60	0.05	0.04	74.
1	12	10	0.30	0.28	98.
1	12	20	0.30	0.28	179.
1	12	30	0.30	0.28	303.
1	12	40	0.30	0.28	420.
1	12	50	0.30	0.28	493.
1	12	60	0.30	0.28	529.
1	13	10	0.36	0.34	552.
1	13	20	0.36	0.34	580.
1	13	30	0.36	0.34	614.
1	13	40	0.36	0.34	645.
1	13	50	0.36	0.34	663.
1	13	60	0.36	0.34	671.
1	14	10	0.44	0.43	684.
1	14	20	0.44	0.43	716.
1	14	30	0.44	0.43	762.
1	14	40	0.44	0.43	806.
1	14	50	0.44	0.43	832.
1	14	60	0.44	0.43	845.
1	15	10	1.12	1.11	920.
1	15	20	1.12	1.11	1149.
1	15	30	1.12	1.11	1500.
1	15	40	1.12	1.11	1830.
1	15	50	1.12	1.11	2035.
1	15	60	1.12	1.11	2134.
1	16	10	0.41	0.40	2111.
1	16	20	0.41	0.40	1898.
1	16	30	0.41	0.40	1545.
1	16	40	0.41	0.40	1207.
1	16	50	0.41	0.40	993.
1	16	60	0.41	0.40	889.
1	17	10	0.33	0.31	830.
1	17	20	0.33	0.31	776.
1	17	30	0.33	0.31	719.
1	17	40	0.33	0.31	671.
1	17	50	0.33	0.31	644.
1	17	60	0.33	0.31	631.
1	18	10	0.03	0.01	595.
1	18	20	0.03	0.01	492.
1	18	30	0.03	0.01	338.
1	18	40	0.03	0.01	212.
1	18	50	0.03	0.01	204.
1	18	60	0.03	0.01	196.
1	19	10	0.03	0.01	188.
1	19	20	0.03	0.01	180.
1	19	30	0.03	0.01	173.
1	19	40	0.03	0.01	166.
1	19	50	0.03	0.01	1
1	19	60	0.03	0.01	153.
1	20	10	0.03	0.01	147.
1	20	20	0.03	0.01	141.
1	20	30	0.03	0.01	136.
1	20	40	0.03	0.01	130.
1	20	50	0.03	0.01	125.
1	20	60	0.03	0.01	120.
1	21	10	0.03	0.01	115.
1	21	20	0.03	0.01	111.
1	21	30	0.03	0.01	106.
1	21	40	0.03	0.01	102.

1 21 50	0.03	0.01	98.	
1 21 60	0.03	0.01	94.	
1 22 10	0.03	0.01	91.	
1 22 20	0.03	0.01	87.	
1 22 30	0.03	0.01	83.	
1 22 40	0.03	0.01	80.	
1 22 50	0.03	0.01	77.	
1 22 60	0.03	0.01	74.	
1 23 10	0.03	0.01	71.	
1 23 20	0.03	0.01	68.	
1 23 30	0.03	0.01	65.	
1 23 40	0.03	0.01	63.	
1 23 50	0.03	0.01	60.	
1 23 60	0.03	0.01	58.	
SUM	21.36	19.02	40734.	

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	2134.	937.	283.	283.	40727.
INCHES		16.75	20.24	20.24	20.24
AC-FT		465.	561.	561.	561.

RUNOFF MULTIPLIED BY 0.50

0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	3.	9.	18.	27.
32.	35.	36.	36.	37.	37.	37.	37.	37.	37.
37.	37.	37.	37.	37.	37.	37.	37.	37.	37.
37.	37.	37.	37.	37.	37.	37.	37.	37.	37.
37.	37.	49.	89.	151.	210.	247.	264.	276.	290.
307.	322.	331.	336.	342.	358.	381.	403.	416.	423.
460.	575.	750.	915.	1017.	1067.	1055.	949.	772.	603.
496.	445.	415.	388.	360.	335.	322.	315.	297.	246.
169.	106.	102.	98.	94.	90.	87.	83.	80.	77.
74.	71.	68.	65.	63.	60.	58.	55.	53.	51.
49.	47.	45.	43.	42.	40.	38.	37.	35.	34.
33.	31.	30.	29.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1067.	468.	141.	141.	20363.
INCHES		8.38	10.12	10.12	10.12
AC-FT		232.	281.	281.	281.

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SUB-AREA RUNOFF COMPUTATION

SUB-AREA 8

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
8	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	0.97	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.40	0.0	0.0

UNIT HYDROGRAPH DATA

TP# 0.54 CP#0.75 NTA# 0

RECESSION DATA

STRTQ# 2.00 QRCSN# -0.10 RTIOR# 1.50

APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC# 4.32 AND R# 1.83 INTERVALS

UNIT HYDROGRAPH 12 END-OF-PERIOD ORDINATES, LAG# 0.54 HOURS, CP# 0.75 VOL# 1.00

127.	431.	732.	842.	673.	407.	233.	133.	76.	43.
25.	14.								

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	2.
1	0 20	0.02	0.00	2.
1	0 30	0.02	0.00	2.
1	0 40	0.02	0.00	2.
1	0 50	0.02	0.00	2.
1	0 60	0.02	0.00	2.
1	1 10	0.02	0.00	2.
1	1 20	0.02	0.00	1.
1	1 30	0.02	0.00	1.

1	1	40	0.02	0.00	1.
1	1	50	0.02	0.00	1.
1	1	60	0.02	0.00	1.
1	2	10	0.02	0.00	1.
1	2	20	0.02	0.00	1.
1	2	30	0.02	0.00	1.
1	2	40	0.02	0.00	1.
1	2	50	0.02	0.00	1.
1	2	60	0.02	0.00	1.
1	3	10	0.02	0.00	1.
1	3	20	0.02	0.00	1.
1	3	30	0.02	0.00	1.
1	3	40	0.02	0.00	1.
1	3	50	0.02	0.00	1.
1	3	60	0.02	0.00	1.
1	4	10	0.02	0.00	1.
1	4	20	0.02	0.00	1.
1	4	30	0.02	0.00	1.
1	4	40	0.02	0.00	1.
1	4	50	0.02	0.00	1.
1	4	60	0.02	0.00	1.
1	5	10	0.02	0.00	1.
1	5	20	0.02	0.00	1.
1	5	30	0.02	0.00	1.
1	5	40	0.02	0.00	1.
1	5	50	0.02	0.00	0.
1	5	60	0.02	0.00	0.
1	6	10	0.05	0.00	0.
1	6	20	0.05	0.00	0.
1	6	30	0.05	0.00	0.
1	6	40	0.05	0.00	0.
1	6	50	0.05	0.00	0.
1	6	60	0.05	0.00	0.
1	7	10	0.05	0.00	0.
1	7	20	0.05	0.00	0.
1	7	30	0.05	0.00	0.
1	7	40	0.05	0.00	0.
1	7	50	0.05	0.00	0.
1	7	60	0.05	0.00	0.
1	8	10	0.05	0.00	0.
1	8	20	0.05	0.00	0.
1	8	30	0.05	0.00	0.
1	8	40	0.05	0.00	0.
1	8	50	0.05	0.00	0.
1	8	60	0.05	0.00	0.
1	9	10	0.05	0.00	0.
1	9	20	0.05	0.00	0.
1	9	30	0.05	0.00	0.
1	9	40	0.05	0.00	0.
1	9	50	0.05	0.00	0.
1	9	60	0.05	0.00	0.
1	10	10	0.05	0.00	0.
1	10	20	0.05	0.00	0.
1	10	30	0.05	0.00	0.
1	10	40	0.05	0.00	0.
1	10	50	0.05	0.00	0.
1	10	60	0.05	0.00	0.
1	11	10	0.05	0.00	0.
1	11	20	0.05	0.00	0.
1	11	30	0.05	0.00	0.
1	11	40	0.05	0.00	0.
1	11	50	0.05	0.00	0.
1	11	60	0.05	0.00	0.
1	12	10	0.30	0.23	29.
1	12	20	0.30	0.23	128.
1	12	30	0.30	0.23	296.
1	12	40	0.30	0.23	489.
1	12	50	0.30	0.23	643.
1	12	60	0.30	0.23	737.
1	13	10	0.36	0.29	798.
1	13	20	0.36	0.29	854.
1	13	30	0.36	0.29	914.
1	13	40	0.36	0.29	974.
1	13	50	0.36	0.29	1019.
1	13	60	0.36	0.29	1047.
1	14	10	0.44	0.38	1072.
1	14	20	0.44	0.38	1118.
1	14	30	0.44	0.38	1187.
1	14	40	0.44	0.38	1265.
1	14	50	0.44	0.38	1326.
1	14	60	0.44	0.38	1363.
1	15	10	1.12	1.06	1470.
1	15	20	1.12	1.06	1775.
1	15	30	1.12	1.06	2280.

1	15	40	1.12	1.06	2857.
1	15	50	1.12	1.06	3318.
1	15	60	1.12	1.06	3596.
1	16	10	0.41	0.35	3664.
1	16	20	0.41	0.35	3449.
1	16	30	0.41	0.35	2980.
1	16	40	0.41	0.35	2412.
1	16	50	0.41	0.35	1950.
1	16	60	0.41	0.35	1670.
1	17	10	0.33	0.26	1494.
1	17	20	0.33	0.26	1361.
1	17	30	0.33	0.26	1243.
1	17	40	0.33	0.26	1137.
1	17	50	0.33	0.26	1060.
1	17	60	0.33	0.26	1014.
1	18	10	0.03	0.00	960.
1	18	20	0.03	0.00	837.
1	18	30	0.03	0.00	640.
1	18	40	0.03	0.00	419.
1	18	50	0.03	0.00	356.
1	18	60	0.03	0.00	342.
1	19	10	0.03	0.00	328.
1	19	20	0.03	0.00	315.
1	19	30	0.03	0.00	303.
1	19	40	0.03	0.00	291.
1	19	50	0.03	0.00	279.
1	19	60	0.03	0.00	268.
1	20	10	0.03	0.00	258.
1	20	20	0.03	0.00	247.
1	20	30	0.03	0.00	237.
1	20	40	0.03	0.00	228.
1	20	50	0.03	0.00	219.
1	20	60	0.03	0.00	210.
1	21	10	0.03	0.00	202.
1	21	20	0.03	0.00	194.
1	21	30	0.03	0.00	186.
1	21	40	0.03	0.00	179.
1	21	50	0.03	0.00	172.
1	21	60	0.03	0.00	165.
1	22	10	0.03	0.00	158.
1	22	20	0.03	0.00	152.
1	22	30	0.03	0.00	146.
1	22	40	0.03	0.00	140.
1	22	50	0.03	0.00	135.
1	22	60	0.03	0.00	129.
1	23	10	0.03	0.00	124.
1	23	20	0.03	0.00	119.
1	23	30	0.03	0.00	114.
1	23	40	0.03	0.00	110.
1	23	50	0.03	0.00	106.
1	23	60	0.03	0.00	101.
		SUM	21.36	15.42	63399.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3664.	1555.	440.	440.	63406.
INCHES		14.91	16.89	16.89	16.89
AC-FT		771.	874.	874.	874.

RUNOFF MULTIPLIED BY 0.50

1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
0.	0.	15.	64.	148.	244.	322.	368.	399.	427.
457.	487.	510.	523.	536.	559.	594.	632.	664.	682.
735.	808.	1140.	1424.	1659.	1798.	1832.	1724.	1490.	1206.
975.	835.	747.	691.	621.	569.	530.	507.	480.	418.
320.	209.	178.	171.	164.	158.	151.	145.	140.	134.
129.	124.	119.	114.	109.	105.	101.	97.	93.	89.
86.	82.	79.	76.	73.	70.	67.	65.	62.	60.
57.	55.	53.	51.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	1832.	777.	220.	220.	31703.
INCHES		7.46	8.45	8.45	8.45
AC-FT		386.	437.	437.	437.

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SUB-AREA RUNOFF COMPUTATION

SUB-AREA 9--MOLLYS BROOK---

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
9	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	10.42	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.17	0.0	0.0

UNIT HYDROGRAPH DATA

TP= 2.64 CP=0.75 NTA= 0

RECESSION DATA

STRTQ= 20.00 QRCSN= -0.10 RTIOR= 1.50

APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC=19.06 AND R= 9.52 INTERVALS

UNIT HYDROGRAPH 62 END-OF-PERIOD ORDINATES, LAG= 2.63 HOURS, CP= 0.75 VOL= 1.00

34.	128.	258.	410.	573.	745.	922.	1101.	1281.	1459.
1623.	1750.	1847.	1915.	1955.	1966.	1948.	1899.	1810.	1667.
1501.	1351.	1216.	1095.	986.	887.	799.	719.	647.	582.
524.	472.	425.	382.	344.	310.	279.	251.	226.	203.
183.	165.	148.	134.	120.	108.	97.	88.	79.	71.
64.	58.	52.	47.	42.	38.	34.	31.	28.	25.
22.	20.								

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	19.
1	0 20	0.02	0.00	18.
1	0 30	0.02	0.00	18.
1	0 40	0.02	0.00	17.
1	0 50	0.02	0.00	16.
1	0 60	0.02	0.00	16.
1	1 10	0.02	0.00	15.
1	1 20	0.02	0.00	14.
1	1 30	0.02	0.00	14.
1	1 40	0.02	0.00	13.
1	1 50	0.02	0.00	13.
1	1 60	0.02	0.00	12.
1	2 10	0.02	0.00	12.
1	2 20	0.02	0.00	11.
1	2 30	0.02	0.00	11.
1	2 40	0.02	0.00	10.
1	2 50	0.02	0.00	10.
1	2 60	0.02	0.00	10.
1	3 10	0.02	0.00	9.
1	3 20	0.02	0.00	9.
1	3 30	0.02	0.00	9.
1	3 40	0.02	0.00	8.
1	3 50	0.02	0.00	8.
1	3 60	0.02	0.00	8.
1	4 10	0.02	0.00	7.
1	4 20	0.02	0.00	7.
1	4 30	0.02	0.00	7.
1	4 40	0.02	0.00	6.
1	4 50	0.02	0.00	6.
1	4 60	0.02	0.00	6.
1	5 10	0.02	0.00	6.
1	5 20	0.02	0.00	5.
1	5 30	0.02	0.00	5.
1	5 40	0.02	0.00	5.
1	5 50	0.02	0.00	5.
1	5 60	0.02	0.00	5.
1	6 10	0.05	0.02	5.
1	6 20	0.05	0.02	8.
1	6 30	0.05	0.02	15.
1	6 40	0.05	0.02	25.
1	6 50	0.05	0.02	39.
1	6 60	0.05	0.02	57.
1	7 10	0.05	0.02	80.

1	7	20	0.05	0.02	108.
1	7	30	0.05	0.02	140.
1	7	40	0.05	0.02	176.
1	7	50	0.05	0.02	216.
1	7	60	0.05	0.02	260.
1	8	10	0.05	0.02	306.
1	8	20	0.05	0.02	354.
1	8	30	0.05	0.02	403.
1	8	40	0.05	0.02	452.
1	8	50	0.05	0.02	500.
1	8	60	0.05	0.02	548.
1	9	10	0.05	0.02	593.
1	9	20	0.05	0.02	634.
1	9	30	0.05	0.02	672.
1	9	40	0.05	0.02	705.
1	9	50	0.05	0.02	736.
1	9	60	0.05	0.02	763.
1	10	10	0.05	0.02	788.
1	10	20	0.05	0.02	810.
1	10	30	0.05	0.02	830.
1	10	40	0.05	0.02	848.
1	10	50	0.05	0.02	864.
1	10	60	0.05	0.02	878.
1	11	10	0.05	0.02	891.
1	11	20	0.05	0.02	903.
1	11	30	0.05	0.02	914.
1	11	40	0.05	0.02	923.
1	11	50	0.05	0.02	932.
1	11	60	0.05	0.02	939.
1	12	10	0.30	0.27	955.
1	12	20	0.30	0.27	992.
1	12	30	0.30	0.27	1060.
1	12	40	0.30	0.27	1165.
1	12	50	0.30	0.27	1308.
1	12	60	0.30	0.27	1493.
1	13	10	0.36	0.33	1723.
1	13	20	0.36	0.33	2001.
1	13	30	0.36	0.33	2330.
1	13	40	0.36	0.33	2711.
1	13	50	0.36	0.33	3141.
1	13	60	0.36	0.33	3611.
1	14	10	0.44	0.42	4119.
1	14	20	0.44	0.42	4662.
1	14	30	0.44	0.42	5237.
1	14	40	0.44	0.42	5838.
1	14	50	0.44	0.42	6459.
1	14	60	0.44	0.42	7091.
1	15	10	1.12	1.10	7746.
1	15	20	1.12	1.10	8449.
1	15	30	1.12	1.10	9220.
1	15	40	1.12	1.10	10073.
1	15	50	1.12	1.10	11019.
1	15	60	1.12	1.10	12060.
1	16	10	0.41	0.39	13174.
1	16	20	0.41	0.39	14318.
1	16	30	0.41	0.39	15463.
1	16	40	0.41	0.39	16595.
1	16	50	0.41	0.39	17692.
1	16	60	0.41	0.39	18729.
1	17	10	0.33	0.30	19675.
1	17	20	0.33	0.30	20500.
1	17	30	0.33	0.30	21181.
1	17	40	0.33	0.30	21702.
1	17	50	0.33	0.30	22056.
1	17	60	0.33	0.30	22247.
1	18	10	0.03	0.00	22261.
1	18	20	0.03	0.00	22068.
1	18	30	0.03	0.00	21661.
1	18	40	0.03	0.00	21069.
1	18	50	0.03	0.00	20321.
1	18	60	0.03	0.00	19450.
1	19	10	0.03	0.00	18496.
1	19	20	0.03	0.00	17508.
1	19	30	0.03	0.00	16511.
1	19	40	0.03	0.00	15504.
1	19	50	0.03	0.00	14491.
1	19	60	0.03	0.00	13479.
1	20	10	0.03	0.00	12479.
1	20	20	0.03	0.00	11500.
1	20	30	0.03	0.00	10551.
1	20	40	0.03	0.00	9634.
1	20	50	0.03	0.00	8756.
1	20	60	0.03	0.00	7923.
1	21	10	0.03	0.00	7143.
1	21	20	0.03	0.00	6429.
1	21	30	0.03	0.00	5787.
1	21	40	0.03	0.00	5209.

1	21 50	0.03	0.00	4688.
1	21 60	0.03	0.00	4220.
1	22 10	0.03	0.00	3798.
1	22 20	0.03	0.00	3418.
1	22 30	0.03	0.00	3072.
1	22 40	0.03	0.00	2761.
1	22 50	0.03	0.00	2480.
1	22 60	0.03	0.00	2228.
1	23 10	0.03	0.00	2138.
1	23 20	0.03	0.00	2053.
1	23 30	0.03	0.00	1972.
1	23 40	0.03	0.00	1893.
1	23 50	0.03	0.00	1818.
1	23 60	0.03	0.00	1746.
	SUM	21.36	17.58	702995.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	22261.	15710.	4882.	4882.	702994.
INCHES		14.02	17.43	17.43	17.43
AC-FT		7794.	9688.	9686.	9688.

RUNOFF MULTIPLIED BY 0.50

10.	9.	9.	9.	8.	8.	8.	7.	7.	7.
6.	6.	6.	6.	5.	5.	5.	5.	5.	4.
4.	4.	4.	4.	4.	3.	3.	3.	3.	3.
3.	3.	3.	3.	2.	2.	3.	4.	7.	12.
19.	29.	40.	54.	70.	88.	108.	130.	153.	177.
201.	226.	250.	274.	296.	317.	336.	353.	368.	382.
394.	405.	415.	424.	432.	439.	446.	452.	457.	462.
466.	470.	477.	496.	530.	582.	654.	747.	861.	1000.
1165.	1356.	1570.	1806.	2060.	2331.	2619.	2919.	3230.	3545.
3873.	4225.	4610.	5037.	5509.	6030.	6587.	7159.	7732.	8297.
8866.	9364.	9837.	10250.	10591.	10851.	11028.	11124.	11131.	11034.
10831.	10535.	10161.	9725.	9248.	8754.	8255.	7752.	7245.	6740.
6240.	5750.	5275.	4817.	4378.	3961.	3571.	3215.	2893.	2604.
2344.	2110.	1899.	1709.	1536.	1380.	1240.	1114.	1069.	1027.
986.	947.	909.	873.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	11131.	7855.	2441.	2441.	351496.
INCHES		7.01	8.72	8.72	8.72
AC-FT		3897.	4844.	4844.	4844.

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SUB-AREA RUNOFF COMPUTATION

SUB-AREA 10 --DANVULLE HILL BASIN--

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
10	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	2.01	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.18	0.0	0.0

UNIT HYDROGRAPH DATA

TP= 1.02 CP=0.75 NTA= 0

RECESSION DATA

STRTQ= 4.00 QRCSN= -0.10 RTIOR= 1.50

APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC= 7.62 AND R= 3.58 INTERVALS

UNIT HYDROGRAPH 24 END-OF-PERIOD ORDINATES, LAG= 1.01 HOURS, CP= 0.74 VOL= 1.00

64.	230.	442.	664.	850.	951.	958.	856.	677.	511.
386.	291.	220.	166.	125.	95.	71.	54.	41.	31.
23.	17.	13.	10.						

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	4.
1	0 20	0.02	0.00	4.
1	0 30	0.02	0.00	4.
1	0 40	0.02	0.00	3.
1	0 50	0.02	0.00	3.
1	0 60	0.02	0.00	3.
1	1 10	0.02	0.00	3.
1	1 20	0.02	0.00	3.
1	1 30	0.02	0.00	3.
1	1 40	0.02	0.00	3.
1	1 50	0.02	0.00	3.
1	1 60	0.02	0.00	2.
1	2 10	0.02	0.00	2.
1	2 20	0.02	0.00	2.
1	2 30	0.02	0.00	2.
1	2 40	0.02	0.00	2.
1	2 50	0.02	0.00	2.
1	2 60	0.02	0.00	2.
1	3 10	0.02	0.00	2.
1	3 20	0.02	0.00	2.
1	3 30	0.02	0.00	2.
1	3 40	0.02	0.00	2.
1	3 50	0.02	0.00	2.
1	3 60	0.02	0.00	2.
1	4 10	0.02	0.00	1.
1	4 20	0.02	0.00	1.
1	4 30	0.02	0.00	1.
1	4 40	0.02	0.00	1.
1	4 50	0.02	0.00	1.
1	4 60	0.02	0.00	1.
1	5 10	0.02	0.00	1.
1	5 20	0.02	0.00	1.
1	5 30	0.02	0.00	1.
1	5 40	0.02	0.00	1.
1	5 50	0.02	0.00	1.
1	5 60	0.02	0.00	1.
1	6 10	0.05	0.02	2.
1	6 20	0.05	0.02	8.
1	6 30	0.05	0.02	18.
1	6 40	0.05	0.02	33.
1	6 50	0.05	0.02	53.
1	6 60	0.05	0.02	75.
1	7 10	0.05	0.02	98.
1	7 20	0.05	0.02	118.
1	7 30	0.05	0.02	133.
1	7 40	0.05	0.02	145.
1	7 50	0.05	0.02	154.
1	7 60	0.05	0.02	161.
1	8 10	0.05	0.02	166.
1	8 20	0.05	0.02	170.
1	8 30	0.05	0.02	173.
1	8 40	0.05	0.02	175.
1	8 50	0.05	0.02	177.
1	8 60	0.05	0.02	178.
1	9 10	0.05	0.02	179.
1	9 20	0.05	0.02	180.
1	9 30	0.05	0.02	180.
1	9 40	0.05	0.02	181.
1	9 50	0.05	0.02	181.
1	9 60	0.05	0.02	181.
1	10 10	0.05	0.02	181.
1	10 20	0.05	0.02	181.
1	10 30	0.05	0.02	181.
1	10 40	0.05	0.02	181.
1	10 50	0.05	0.02	181.
1	10 60	0.05	0.02	181.
1	11 10	0.05	0.02	181.
1	11 20	0.05	0.02	181.
1	11 30	0.05	0.02	181.
1	11 40	0.05	0.02	181.
1	11 50	0.05	0.02	181.
1	11 60	0.05	0.02	181.
1	12 10	0.30	0.27	197.
1	12 20	0.30	0.27	252.
1	12 30	0.30	0.27	360.
1	12 40	0.30	0.27	521.
1	12 50	0.30	0.27	727.
1	12 60	0.30	0.27	958.
1	13 10	0.36	0.33	1194.
1	13 20	0.36	0.33	1415.

1 13 30	0.36	0.33	1606.
1 13 40	0.36	0.33	1769.
1 13 50	0.36	0.33	1913.
1 13 60	0.36	0.33	2040.
1 14 10	0.44	0.41	2156.
1 14 20	0.44	0.41	2268.
1 14 30	0.44	0.41	2377.
1 14 40	0.44	0.41	2490.
1 14 50	0.44	0.41	2605.
1 14 60	0.44	0.41	2720.
1 15 10	1.12	1.09	2872.
1 15 20	1.12	1.09	3121.
1 15 30	1.12	1.09	3495.
1 15 40	1.12	1.09	4003.
1 15 50	1.12	1.09	4623.
1 15 60	1.12	1.09	5302.
1 16 10	0.41	0.38	5931.
1 16 20	0.41	0.38	6367.
1 16 30	0.41	0.38	6527.
1 16 40	0.41	0.38	6412.
1 16 50	0.41	0.38	6078.
1 16 60	0.41	0.38	5606.
1 17 10	0.33	0.30	5073.
1 17 20	0.33	0.30	4561.
1 17 30	0.33	0.30	4127.
1 17 40	0.33	0.30	3771.
1 17 50	0.33	0.30	3471.
1 17 60	0.33	0.30	3217.
1 18 10	0.03	0.00	2985.
1 18 20	0.03	0.00	2744.
1 18 30	0.03	0.00	2480.
1 18 40	0.03	0.00	2183.
1 18 50	0.03	0.00	1855.
1 18 60	0.03	0.00	1517.
1 19 10	0.03	0.00	1185.
1 19 20	0.03	0.00	896.
1 19 30	0.03	0.00	668.
1 19 40	0.03	0.00	629.
1 19 50	0.03	0.00	604.
1 19 60	0.03	0.00	580.
1 20 10	0.03	0.00	557.
1 20 20	0.03	0.00	535.
1 20 30	0.03	0.00	514.
1 20 40	0.03	0.00	493.
1 20 50	0.03	0.00	474.
1 20 60	0.03	0.00	455.
1 21 10	0.03	0.00	437.
1 21 20	0.03	0.00	419.
1 21 30	0.03	0.00	403.
1 21 40	0.03	0.00	387.
1 21 50	0.03	0.00	371.
1 21 60	0.03	0.00	357.
1 22 10	0.03	0.00	342.
1 22 20	0.03	0.00	329.
1 22 30	0.03	0.00	316.
1 22 40	0.03	0.00	303.
1 22 50	0.03	0.00	291.
1 22 60	0.03	0.00	280.
1 23 10	0.03	0.00	268.
1 23 20	0.03	0.00	258.
1 23 30	0.03	0.00	248.
1 23 40	0.03	0.00	238.
1 23 50	0.03	0.00	228.
1 23 60	0.03	0.00	219.
SUM	21.36	17.40	144538.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	6527.	3413.	1004.	1004.	144542.
INCHES		15.80	18.58	18.58	18.58
AC-FT		1693.	1992.	1992.	1992.

RUNOFF MULTIPLIED BY 0.50

2.	2.	2.	2.	2.	2.	2.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
1.	1.	1.	1.	0.	0.	1.	4.	9.	17.
27.	38.	49.	59.	67.	73.	77.	81.	83.	85.
87.	88.	88.	89.	90.	90.	90.	90.	90.	91.
91.	91.	91.	91.	91.	91.	91.	91.	91.	91.
91.	91.	98.	126.	180.	260.	364.	479.	597.	708.
803.	885.	957.	1020.	1078.	1134.	1189.	1245.	1303.	1360.
1436.	1561.	1748.	2002.	2312.	2651.	2966.	3184.	3263.	3206.
3039.	2803.	2537.	2280.	2064.	1886.	1736.	1609.	1492.	1372.
1240.	1091.	928.	758.	593.	448.	334.	315.	302.	290.
278.	267.	257.	247.	237.	227.	218.	210.	201.	193.
186.	178.	171.	164.	158.	152.	146.	140.	134.	129.
124.	119.	114.	110.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	3263.	1707.	502.	502.	72270.
INCHES		7.90	9.29	9.29	9.29
AC-FT		847.	996.	996.	996.

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SUB-AREA RUNOFF COMPUTATION

SUB-AREA 11 --PLUS MOLLYS FALL RESERVOIR AREA

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
11	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUNG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	3.68	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	111.00	123.00	133.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.18	0.0	0.18

UNIT HYDROGRAPH DATA

TP# 0.93 CP#0.75 NTA# 0

RECESSION DATA

STRTQ# 7.00 QRCSN# -0.10 RTIOR# 1.50

APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP AKE TC# 6.98 AND R# 3.37 INTERVALS

UNIT HYDROGRAPH 22 END-OF-PERIOD ORDINATES, LAG# 0.94 HOURS, CP# 0.75 VOL# 1.00

141.	504.	966.	1432.	1776.	1906.	1806.	1476.	1094.	812.
602.	446.	331.	245.	182.	135.	100.	74.	55.	41.
30.	22.								

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	7.
1	0 20	0.02	0.00	9.
1	0 30	0.02	0.00	11.
1	0 40	0.02	0.00	16.
1	0 50	0.02	0.00	21.
1	0 60	0.02	0.00	27.
1	1 10	0.02	0.00	33.
1	1 20	0.02	0.00	37.
1	1 30	0.02	0.00	40.
1	1 40	0.02	0.00	43.
1	1 50	0.02	0.00	45.
1	1 60	0.02	0.00	46.
1	2 10	0.02	0.00	47.
1	2 20	0.02	0.00	47.
1	2 30	0.02	0.00	48.
1	2 40	0.02	0.00	48.
1	2 50	0.02	0.00	48.
1	2 60	0.02	0.00	48.
1	3 10	0.02	0.00	48.
1	3 20	0.02	0.00	48.
1	3 30	0.02	0.00	48.
1	3 40	0.02	0.00	48.
1	3 50	0.02	0.00	48.
1	3 60	0.02	0.00	48.
1	4 10	0.02	0.00	48.
1	4 20	0.02	0.00	48.

1	4	30	0.02	0.00	48.
1	4	40	0.02	0.00	48.
1	4	50	0.02	0.00	48.
1	4	60	0.02	0.00	47.
1	5	10	0.02	0.00	47.
1	5	20	0.02	0.00	47.
1	5	30	0.02	0.00	47.
1	5	40	0.02	0.00	47.
1	5	50	0.02	0.00	47.
1	5	60	0.02	0.00	47.
1	6	10	0.05	0.03	51.
1	6	20	0.05	0.03	63.
1	6	30	0.05	0.03	88.
1	6	40	0.05	0.03	124.
1	6	50	0.05	0.03	170.
1	6	60	0.05	0.03	218.
1	7	10	0.05	0.03	264.
1	7	20	0.05	0.03	302.
1	7	30	0.05	0.03	330.
1	7	40	0.05	0.03	351.
1	7	50	0.05	0.03	366.
1	7	60	0.05	0.03	377.
1	8	10	0.05	0.03	386.
1	8	20	0.05	0.03	392.
1	8	30	0.05	0.03	397.
1	8	40	0.05	0.03	400.
1	8	50	0.05	0.03	402.
1	8	60	0.05	0.03	404.
1	9	10	0.05	0.03	406.
1	9	20	0.05	0.03	407.
1	9	30	0.05	0.03	407.
1	9	40	0.05	0.03	408.
1	9	50	0.05	0.03	408.
1	9	60	0.05	0.03	408.
1	10	10	0.05	0.03	408.
1	10	20	0.05	0.03	408.
1	10	30	0.05	0.03	408.
1	10	40	0.05	0.03	408.
1	10	50	0.05	0.03	408.
1	10	60	0.05	0.03	408.
1	11	10	0.05	0.03	408.
1	11	20	0.05	0.03	408.
1	11	30	0.05	0.03	408.
1	11	40	0.05	0.03	408.
1	11	50	0.05	0.03	408.
1	11	60	0.05	0.03	408.
1	12	10	0.30	0.27	442.
1	12	20	0.30	0.27	564.
1	12	30	0.30	0.27	799.
1	12	40	0.30	0.27	1146.
1	12	50	0.30	0.27	1577.
1	12	60	0.30	0.27	2040.
1	13	10	0.36	0.33	2486.
1	13	20	0.36	0.33	2874.
1	13	30	0.36	0.33	3197.
1	13	40	0.36	0.33	3479.
1	13	50	0.36	0.33	3730.
1	13	60	0.36	0.33	3951.
1	14	10	0.44	0.42	4151.
1	14	20	0.44	0.42	4343.
1	14	30	0.44	0.42	4537.
1	14	40	0.44	0.42	4745.
1	14	50	0.44	0.42	4963.
1	14	60	0.44	0.42	5176.
1	15	10	1.12	1.10	5466.
1	15	20	1.12	1.10	5965.
1	15	30	1.12	1.10	6738.
1	15	40	1.12	1.10	7798.
1	15	50	1.12	1.10	9067.
1	15	60	1.12	1.10	10408.
1	16	10	0.41	0.39	11570.
1	16	20	0.41	0.39	12241.
1	16	30	0.41	0.39	12318.
1	16	40	0.41	0.39	11866.
1	16	50	0.41	0.39	11023.
1	16	60	0.41	0.39	9979.
1	17	10	0.33	0.30	8914.
1	17	20	0.33	0.30	7991.
1	17	30	0.33	0.30	7254.
1	17	40	0.33	0.30	6644.
1	17	50	0.33	0.30	6127.

1	17	60	0.33	0.30	5692.
1	18	10	0.03	0.00	5292.
1	18	20	0.03	0.00	4865.
1	18	30	0.03	0.00	4373.
1	18	40	0.03	0.00	3796.
1	18	50	0.03	0.00	3146.
1	18	60	0.03	0.00	2489.
1	19	10	0.03	0.00	1885.
1	19	20	0.03	0.00	1397.
1	19	30	0.03	0.00	1205.
1	19	40	0.03	0.00	1157.
1	19	50	0.03	0.00	1111.
1	19	60	0.03	0.00	1067.
1	20	10	0.03	0.00	1025.
1	20	20	0.03	0.00	984.
1	20	30	0.03	0.00	945.
1	20	40	0.03	0.00	907.
1	20	50	0.03	0.00	871.
1	20	60	0.03	0.00	837.
1	21	10	0.03	0.00	803.
1	21	20	0.03	0.00	772.
1	21	30	0.03	0.00	741.
1	21	40	0.03	0.00	711.
1	21	50	0.03	0.00	683.
1	21	60	0.03	0.00	656.
1	22	10	0.03	0.00	630.
1	22	20	0.03	0.00	605.
1	22	30	0.03	0.00	581.
1	22	40	0.03	0.00	558.
1	22	50	0.03	0.00	536.
1	22	60	0.03	0.00	514.
1	23	10	0.03	0.00	494.
1	23	20	0.03	0.00	474.
1	23	30	0.03	0.00	455.
1	23	40	0.03	0.00	437.
1	23	50	0.03	0.00	420.
1	23	60	0.03	0.00	403.
		SUM	21.36	17.94	272989.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	12318.	6351.	1896.	1896.	272990.
INCHES		16.06	19.17	19.17	19.17
AC-FT		3151.	3762.	3762.	3762.

RUNOFF MULTIPLIED BY 0.50

4.	4.	6.	8.	11.	14.	16.	19.	20.	21.
22.	23.	23.	24.	24.	24.	24.	24.	24.	24.
24.	24.	24.	24.	24.	24.	24.	24.	24.	24.
24.	24.	24.	24.	24.	23.	25.	32.	44.	62.
85.	109.	132.	151.	165.	175.	183.	189.	193.	196.
198.	200.	201.	202.	203.	203.	204.	204.	204.	204.
204.	204.	204.	204.	204.	204.	204.	204.	204.	204.
204.	204.	221.	282.	399.	573.	789.	1020.	1243.	1437.
1599.	1739.	1865.	1976.	2075.	2171.	2269.	2373.	2481.	2588.
2733.	2982.	3369.	3899.	4533.	5204.	5785.	6121.	6159.	5933.
5512.	4990.	4457.	3996.	3627.	3322.	3064.	2846.	2646.	2432.
2186.	1898.	1573.	1244.	943.	699.	603.	579.	556.	534.
512.	492.	472.	454.	436.	418.	402.	386.	370.	356.
342.	328.	315.	302.	290.	279.	268.	257.	247.	237.
228.	219.	210.	202.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	6159.	3176.	948.	948.	136495.
INCHES		8.03	9.58	9.58	9.58
AC-FT		1576.	1881.	1881.	1881.

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COMBINE HYDROGRAPHS

--COMBINING HYDROGRAPHS 7-11 & PEACHAM POND OUTFLOW--

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
11	6	0	0	0	0	1

SUM OF 6 HYDROGRAPHS AT 11

24.	280.	277.	275.	274.	273.	272.	271.	269.	267.
264.	262.	259.	256.	253.	250.	247.	244.	241.	238.
235.	232.	229.	226.	224.	221.	219.	216.	214.	211.
209.	206.	204.	201.	199.	197.	199.	214.	243.	282.
327.	375.	424.	469.	509.	546.	581.	614.	647.	678.
709.	739.	768.	796.	822.	847.	869.	888.	906.	923.
937.	951.	963.	974.	985.	994.	1003.	1011.	1019.	1026.
1032.	1038.	1100.	1302.	1663.	2139.	2664.	3192.	3718.	4235.
4739.	5234.	5718.	6186.	6659.	7164.	7708.	8276.	8847.	9403.
10096.	11150.	12610.	14377.	16293.	18199.	19870.	21053.	21625.	21706.
21538.	21279.	20974.	20688.	20445.	20213.	19982.	19743.	19417.	18887.
18125.	17193.	16251.	15252.	14232.	13269.	12477.	11845.	11217.	10592.
9976.	9374.	8790.	8225.	7683.	7166.	6678.	6227.	5813.	5435.
5087.	4763.	4476.	4206.	3956.	3725.	3511.	3321.	3227.	3135.
3047.	2961.	2878.	2797.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	21706.	15702.	5290.	5290.	761748.
INCHES		6.22	8.39	8.39	8.39
AC-FT		7790.	10498.	10498.	10498.

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HYDROGRAPH ROUTING

FLOOD ROUTING MOLLYS FALL DAM --WATER SURFACE AT INVERT OF SPILLWAY

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
21	1	0	0	0	0	1

ROUTING DATA

QLOSS	CLOSS	AVG	IRES	ISAME
0.0	0.0	0.0	1	0

NSTPS	NSTDL	LAG	AMSKK	X	TSK	STORA
1	0	0	0.0	0.0	0.0	-1.

STORAGE#	6591.	7060.	7908.	10131.	12950.	13675.	14417.	14912.	15922.	16947.
OUTFLOW#	208.	230.	770.	2612.	5750.	7192.	14780.	22135.	40604.	63793.

	TIME	EOP STOR	AVG IN	EOP OUT
1	0 10	6592.	24.	24.
1	0 20	6593.	152.	208.
1	0 30	6594.	278.	208.
1	0 40	6595.	276.	208.
1	0 50	6596.	275.	208.
1	0 60	6596.	274.	208.
1	1 10	6597.	273.	208.
1	1 20	6598.	272.	208.
1	1 30	6599.	270.	208.
1	1 40	6600.	268.	208.
1	1 50	6601.	266.	208.
1	1 60	6601.	263.	208.
1	2 10	6602.	260.	209.
1	2 20	6603.	257.	209.
1	2 30	6603.	254.	209.
1	2 40	6604.	251.	209.
1	2 50	6605.	248.	209.
1	2 60	6605.	245.	209.
1	3 10	6606.	242.	209.
1	3 20	6606.	239.	209.
1	3 30	6606.	236.	209.
1	3 40	6607.	233.	209.
1	3 50	6607.	231.	209.
1	3 60	6607.	228.	209.
1	4 10	6607.	225.	209.
1	4 20	6608.	222.	209.
1	4 30	6608.	220.	209.
1	4 40	6608.	218.	209.
1	4 50	6608.	215.	209.
1	4 60	6608.	213.	209.

1	5	10	6608.	210.	209.
1	5	20	6608.	208.	209.
1	5	30	6608.	205.	209.
1	5	40	6608.	203.	209.
1	5	50	6608.	200.	209.
1	5	60	6608.	198.	209.
1	6	10	6608.	198.	209.
1	6	20	6607.	207.	209.
1	6	30	6608.	228.	209.
1	6	40	6608.	262.	209.
1	6	50	6610.	305.	209.
1	6	60	6612.	351.	209.
1	7	10	6614.	399.	209.
1	7	20	6618.	446.	209.
1	7	30	6621.	489.	209.
1	7	40	6626.	527.	210.
1	7	50	6631.	563.	210.
1	7	60	6636.	597.	210.
1	8	10	6642.	630.	210.
1	8	20	6648.	662.	211.
1	8	30	6655.	694.	211.
1	8	40	6662.	724.	211.
1	8	50	6669.	753.	212.
1	8	60	6677.	782.	212.
1	9	10	6685.	809.	212.
1	9	20	6694.	834.	213.
1	9	30	6703.	858.	213.
1	9	40	6712.	879.	214.
1	9	50	6721.	897.	214.
1	9	60	6731.	914.	215.
1	10	10	6741.	930.	215.
1	10	20	6751.	944.	215.
1	10	30	6761.	957.	216.
1	10	40	6771.	969.	216.
1	10	50	6782.	980.	217.
1	10	60	6793.	990.	217.
1	11	10	6803.	999.	218.
1	11	20	6814.	1007.	218.
1	11	30.	6825.	1015.	219.
1	11	40	6836.	1022.	220.
1	11	50	6847.	1029.	220.
1	11	60	6859.	1035.	221.
1	12	10	6870.	1069.	221.
1	12	20	6884.	1201.	222.
1	12	30	6901.	1482.	223.
1	12	40	6924.	1901.	224.
1	12	50	6954.	2401.	225.
1	12	60	6991.	2928.	227.
1	13	10	7036.	3455.	229.
1	13	20	7087.	3977.	247.
1	13	30	7146.	4487.	284.
1	13	40	7210.	4986.	326.
1	13	50	7281.	5476.	371.
1	13	60	7357.	5952.	419.
1	14	10	7440.	6422.	472.
1	14	20	7528.	6912.	528.
1	14	30	7623.	7436.	588.
1	14	40	7724.	7992.	653.
1	14	50	7833.	8562.	722.
1	14	60	7948.	9125.	803.
1	15	10	8070.	9750.	904.
1	15	20	8203.	10623.	1015.
1	15	30	8352.	11880.	1138.
1	15	40	8521.	13493.	1278.
1	15	50	8714.	15335.	1438.
1	15	60	8930.	17246.	1617.
1	16	10	9169.	19034.	1815.
1	16	20	9424.	20461.	2026.
1	16	30	9689.	21333.	2246.
1	16	40	9955.	21666.	2466.
1	16	50	10217.	21622.	2709.
1	16	60	10473.	21408.	2997.
1	17	10	10720.	21126.	3276.
1	17	20	10960.	20831.	3547.
1	17	30	11193.	20567.	3809.
1	17	40	11419.	20329.	4064.
1	17	50	11636.	20098.	4311.
1	17	60	11850.	19862.	4550.
1	16	10	12056.	19580.	4782.
1	18	20	12252.	19152.	5003.
1	18	30	12437.	18506.	5211.
1	18	40	12607.	17659.	5403.
1	18	50	12762.	16722.	5578.
1	18	60	12901.	15752.	5734.
1	19	10	13023.	14742.	5932.
1	19	20	13130.	13751.	6138.
1	19	30	13221.	12873.	6315.

1	19 40	13301.	12161.	6468.
1	19 50	13370.	11531.	6601.
1	19 60	13428.	10904.	6714.
1	20 10	13477.	10284.	6808.
1	20 20	13516.	9675.	6884.
1	20 30	13545.	9082.	6941.
1	20 40	13567.	8508.	6983.
1	20 50	13580.	7954.	7008.
1	20 60	13586.	7425.	7019.
1	21 10	13584.	6922.	7016.
1	21 20	13577.	6452.	7002.
1	21 30	13563.	6020.	6976.
1	21 40	13545.	5624.	6940.
1	21 50	13522.	5261.	6896.
1	21 60	13495.	4928.	6844.
1	22 10	13465.	4622.	6786.
1	22 20	13432.	4341.	6722.
1	22 30	13396.	4081.	6652.
1	22 40	13358.	3840.	6578.
1	22 50	13317.	3618.	6501.
1	22 60	13276.	3416.	6419.
1	23 10	13233.	3274.	6337.
1	23 20	13190.	3181.	6254.
1	23 30	13147.	3091.	6171.
1	23 40	13104.	3004.	6087.
1	23 50	13061.	2919.	6004.
1	23 60	13018.	2837.	5921.
	SUM			296815.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	7019.	6379.	2061.	2061.	296815.
INCHES		2.53	3.27	3.27	3.27
AC-FT		3165.	4090.	4090.	4090.

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SUB-AREA RUNOFF COMPUTATION

SUB AREA NO. 12 --WINOOSKI RIVER TO CABOT--

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
12	0	0	0	0	0	1

HYDROGRAPH DATA

IHYDG	IUHG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISAME	LOCAL
1	1	28.70	0.0	0.0	1.00	0.500	0	0	0

PRECIP DATA

SPFE	PMS	R6	R12	R24	R48	R72	R96
0.0	16.00	103.00	115.00	126.00	0.0	0.0	0.0

LOSS DATA

STRKR	DLTKR	RTIOL	ERAIN	STRKS	RTIOK	STRTL	CNSTL	ALSMX	RTIMP
0.0	0.0	1.00	0.0	0.0	1.00	0.41	0.18	0.0	0.0

UNIT HYDROGRAPH DAT
TP# 4.20 CP#0.75 NTA# 0

RECESSION DATA
STRTQ# 50.00 QRCSN# -0.10 RTIOR# 1.50

APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC#29.87 AND R#15.22 INTERVALS

UNIT HYDROGRAPH 98 END-OF-PERIOD ORDINATES, LAG# 4.17 HOURS, CP# 0.74 VOL# 1.00

31.	115.	236.	380.	539.	709.	889.	1075.	1266.	1461.
1658.	1857.	2057.	2257.	2457.	2649.	2822.	2972.	3099.	3205.
3289.	3353.	3397.	3422.	3426.	3411.	3374.	3314.	3227.	3100.
2928.	2742.	2567.	2404.	2251.	2108.	1974.	1848.	1731.	1620.
1517.	1421.	1330.	1246.	1167.	1092.	1023.	958.	897.	840.
786.	736.	690.	646.	605.	566.	530.	496.	465.	435.
408.	382.	357.	335.	313.	293.	275.	257.	241.	226.
211.	198.	185.	173.	162.	152.	142.	133.	125.	117.
109.	103.	96.	90.	84.	79.	74.	69.	65.	61.
57.	53.	50.	47.	44.	41.	38.	36.		

END-OF-PERIOD FLOW

	TIME	RAIN	EXCS	COMP Q
1	0 10	0.02	0.00	48.
1	0 20	0.02	0.00	46.
1	0 30	0.02	0.00	44.
1	0 40	0.02	0.00	43.

1	0	50	0.02	0.00	41.
1	0	60	0.02	0.00	39.
1	1	10	0.02	0.00	38.
1	1	20	0.02	0.00	36.
1	1	30	0.02	0.00	35.
1	1	40	0.02	0.00	33.
1	1	50	0.02	0.00	32.
1	1	60	0.02	0.00	31.
1	2	10	0.02	0.00	30.
1	2	20	0.02	0.00	28.
1	2	30	0.02	0.00	27.
1	2	40	0.02	0.00	26.
1	2	50	0.02	0.00	25.
1	2	60	0.02	0.00	24.
1	3	10	0.02	0.00	23.
1	3	20	0.02	0.00	22.
1	3	30	0.02	0.00	21.
1	3	40	0.02	0.00	20.
1	3	50	0.02	0.00	20.
1	3	60	0.02	0.00	19.
1	4	10	0.02	0.00	18.
1	4	20	0.02	0.00	17.
1	4	30	0.02	0.00	17.
1	4	40	0.02	0.00	16.
1	4	50	0.02	0.00	15.
1	4	60	0.02	0.00	15.
1	5	10	0.02	0.00	14.
1	5	20	0.02	0.00	14.
1	5	30	0.02	0.00	13.
1	5	40	0.02	0.00	13.
1	5	50	0.02	0.00	12.
1	5	60	0.02	0.00	12.
1	6	10	0.05	0.02	12.
1	6	20	0.05	0.02	14.
1	6	30	0.05	0.02	19.
1	6	40	0.05	0.02	28.
1	6	50	0.05	0.02	40.
1	6	60	0.05	0.02	56.
1	7	10	0.05	0.02	76.
1	7	20	0.05	0.02	101.
1	7	30	0.05	0.02	130.
1	7	40	0.05	0.02	164.
1	7	50	0.05	0.02	202.
1	7	60	0.05	0.02	245.
1	8	10	0.05	0.02	293.
1	8	20	0.05	0.02	346.
1	8	30	0.05	0.02	403.
1	8	40	0.05	0.02	464.
1	8	50	0.05	0.02	530.
1	8	60	0.05	0.02	599.
1	9	10	0.05	0.02	671.
1	9	20	0.05	0.02	746.
1	9	30	0.05	0.02	822.
1	9	40	0.05	0.02	900.
1	9	50	0.05	0.02	979.
1	9	60	0.05	0.02	1059.
1	10	10	0.05	0.02	1139.
1	10	20	0.05	0.02	1218.
1	10	30	0.05	0.02	1297.
1	10	40	0.05	0.02	1374.
1	10	50	0.05	0.02	1449.
1	10	60	0.05	0.02	1521.
1	11	10	0.05	0.02	1589.
1	11	20	0.05	0.02	1653.
1	11	30	0.05	0.02	1713.
1	11	40	0.05	0.02	1769.
1	11	50	0.05	0.02	1821.
1	11	60	0.05	0.02	1870.
1	12	10	0.27	0.24	1923.
1	12	20	0.27	0.24	1992.
1	12	30	0.27	0.24	2084.
1	12	40	0.27	0.24	2206.
1	12	50	0.27	0.24	2360.
1	12	60	0.27	0.24	2550.
1	13	10	0.33	0.30	2780.
1	13	20	0.33	0.30	3053.
1	13	30	0.33	0.30	3373.
1	13	40	0.33	0.30	3743.
1	13	50	0.33	0.30	4163.
1	13	60	0.33	0.30	4635.
1	14	10	0.41	0.38	5163.
1	14	20	0.41	0.38	5750.
1	14	30	0.41	0.38	6401.
1	14	40	0.41	0.38	7116.
1	14	50	0.41	0.38	7893.
1	14	60	0.41	0.38	8726.
1	15	10	1.04	1.01	9631.

1	15 20	1.04	1.01	10639.
1	15 30	1.04	1.01	11768.
1	15 40	1.04	1.01	13027.
1	15 50	1.04	1.01	14422.
1	15 60	1.04	1.01	15954.
1	16 10	0.38	0.35	17603.
1	16 20	0.38	0.35	19331.
1	16 30	0.38	0.35	21113.
1	16 40	0.38	0.35	22930.
1	16 50	0.38	0.35	24763.
1	16 60	0.38	0.35	26594.
1	17 10	0.30	0.27	28403.
1	17 20	0.30	0.27	30175.
1	17 30	0.30	0.27	31903.
1	17 40	0.30	0.27	33578.
1	17 50	0.30	0.27	35184.
1	17 60	0.30	0.27	36703.
1	18 10	0.03	0.00	38107.
1	18 20	0.03	0.00	39369.
1	18 30	0.03	0.00	40465.
1	18 40	0.03	0.00	41381.
1	18 50	0.03	0.00	42112.
1	18 60	0.03	0.00	42657.
1	19 10	0.03	0.00	43014.
1	19 20	0.03	0.00	43183.
1	19 30	0.03	0.00	43167.
1	19 40	0.03	0.00	42965.
1	19 50	0.03	0.00	42578.
1	19 60	0.03	0.00	41996.
1	20 10	0.03	0.00	41209.
1	20 20	0.03	0.00	40222.
1	20 30	0.03	0.00	39063.
1	20 40	0.03	0.00	37758.
1	20 50	0.03	0.00	36340.
1	20 60	0.03	0.00	34851.
1	21 10	0.03	0.00	33336.
1	21 20	0.03	0.00	31819.
1	21 30	0.03	0.00	30305.
1	21 40	0.03	0.00	28799.
1	21 50	0.03	0.00	27310.
1	21 60	0.03	0.00	25843.
1	22 10	0.03	0.00	24407.
1	22 20	0.03	0.00	23007.
1	22 30	0.03	0.00	21647.
1	22 40	0.03	0.00	20331.
1	22 50	0.03	0.00	19065.
1	22 60	0.03	0.00	17858.
1	23 10	0.03	0.00	16721.
1	23 20	0.03	0.00	15657.
1	23 30	0.03	0.00	14660.
1	23 40	0.03	0.00	13727.
1	23 50	0.03	0.00	12853.
1	23 60	0.03	0.00	12034.
	SUM	19.98	16.02	1627687.

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	43183.	34643.	11303.	11303.	1627683.
INCHES		11.23	14.65	14.65	14.65
AC-FT		17187.	22431.	22431.	22431.

RUNOFF MULTIPLIED BY 0.50

24.	23.	22.	21.	20.	20.	19.	18.	17.	17.
16.	15.	15.	14.	14.	13.	13.	12.	12.	11.
11.	10.	10.	9.	9.	9.	8.	8.	8.	7.
7.	7.	7.	6.	6.	6.	6.	7.	10.	14.
20.	28.	38.	51.	65.	82.	101.	123.	147.	173.
201.	232.	265.	299.	336.	373.	411.	450.	490.	529.
569.	609.	648.	687.	724.	761.	795.	827.	856.	884.
911.	935.	962.	996.	1042.	1103.	1180.	1275.	1390.	1526.
1687.	1871.	2082.	2318.	2581.	2875.	3201.	3558.	3946.	4363.
4816.	5320.	5884.	6514.	7211.	7977.	8801.	9666.	10557.	11465.
12381.	13297.	14202.	15068.	15952.	16789.	17592.	18351.	19054.	19685.
20732.	20690.	21056.	21328.	21507.	21592.	21583.	21483.	21289.	20998.
20604.	20111.	19532.	18879.	18170.	17426.	16668.	15909.	15152.	14400.
13655.	12922.	12204.	11504.	10824.	10168.	9532.	8929.	8361.	7828.
7330.	6863.	6426.	6017.						

	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	21592.	17321.	5652.	5652.	813845.
INCHES		5.61	7.33	7.33	7.33
AC-FT		8594.	11216.	11216.	11216.

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COMBINE HYDROGRAPHS

COMBINING TOTAL FLOW AT MARSHFIELD VILLAGE

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	INAME
12	2	0	0	0	0	1

SUM OF 2 HYDROGRAPHS AT 12

48.	231.	230.	229.	229.	228.	227.	226.	226.	225.
224.	224.	223.	223.	222.	222.	221.	221.	220.	220.
219.	219.	219.	218.	218.	217.	217.	217.	217.	216.
216.	216.	215.	215.	215.	215.	215.	216.	218.	223.
229.	237.	247.	260.	275.	292.	311.	333.	357.	383.
412.	443.	477.	511.	548.	586.	624.	664.	704.	744.
784.	825.	864.	903.	941.	978.	1013.	1045.	1075.	1104.
1131.	1156.	1183.	1218.	1265.	1327.	1405.	1502.	1619.	1774.
1971.	2197.	2452.	2737.	3053.	3403.	3789.	4211.	4668.	5166.
5720.	6334.	7022.	7792.	8649.	9596.	10616.	11692.	12802.	13931.
15070.	16294.	17478.	18634.	19761.	20853.	21903.	22902.	23836.	24688.
25444.	26094.	26634.	27063.	27439.	27729.	27898.	27951.	27890.	27713.
27412.	26995.	26473.	25862.	25178.	24445.	23685.	22911.	22128.	21340.
20551.	19766.	18990.	18225.	17476.	16744.	16033.	15349.	14697.	14082.
13501.	12951.	12431.	11938.						

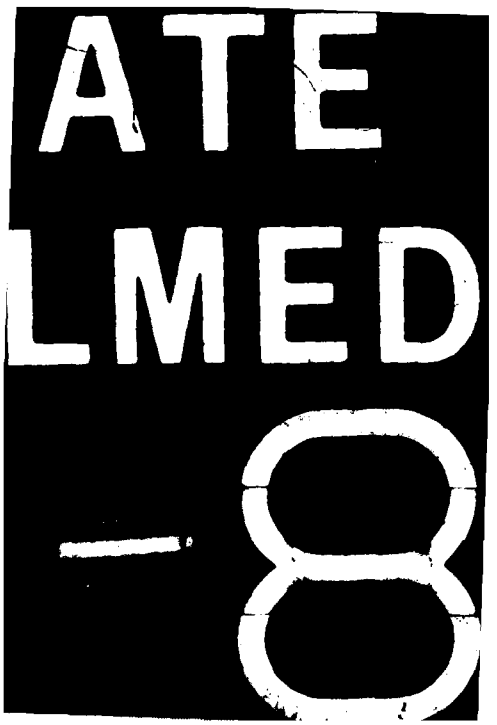
	PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
CFS	27951.	23123.	7713.	7713.	1110659.
INCHES		4.12	5.50	5.50	5.50
AC-FT		11472.	15306.	15306.	15306.

RUNOFF SUMMARY, AVERAGE FLOW

		PEAK	6-HOUR	24-HOUR	72-HOUR	AREA
HYDROGRAPH AT	1	2906.	1592.	479.	479.	1.84
HYDROGRAPH AT	2	790.	335.	101.	101.	0.37
HYDROGRAPH AT	3	1798.	895.	267.	267.	1.02
HYDROGRAPH AT	4	1008.	489.	143.	143.	0.57
HYDROGRAPH AT	5	440.	187.	54.	54.	0.22
HYDROGRAPH AT	6	3703.	1670.	510.	510.	1.85
6 COMBINED	20	10162.	5122.	1554.	1554.	5.87
ROUTED TO	6	3384.	2771.	1038.	1038.	5.87
HYDROGRAPH AT	7	1067.	468.	141.	141.	0.52
HYDROGRAPH AT	8	1832.	777.	220.	220.	0.97
HYDROGRAPH AT	9	11131.	7855.	2441.	2441.	10.42
HYDROGRAPH AT	10	3263.	1707.	502.	502.	2.01
HYDROGRAPH AT	11	6159.	3176.	948.	948.	3.68
6 COMBINED	11	21706.	15702.	5290.	5290.	23.47
ROUTED TO	21	7019.	6379.	2061.	2061.	23.47
HYDROGRAPH AT	12	21592.	17321.	5652.	5652.	28.70
2 COMBINED	12	27951.	23123.	7713.	7713.	52.17

APPENDIX E

Information as Contained in the National Inventory of Dams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-8